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COLONY OF MAURITIUS

Annual Report

ON THE

Medical and Health Department

1951

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PRINTED AND PUBLISHED BY
J. ELIEL FELIX, GOVERNMENT PRINTER,
PORT LOUIS, MAURITIUS
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INDEX TO TABLES, APPENDICES, ETC.

MAP OF MAURITIUS

indicating

- Hospital (Public)
- Hospital (Estate)
- Dispensary (Static)
- Dispensary, Mobile / Halting Places
- Maternity & Childwelfare Centre
- Mobile Antenatal Clinic / Halting Places
- Health Office
- Departmental Transport Centre

Cap Malheureux
Pte Raffray
Grand Gaube
Grand Baie
Trouvaux Biches
Fonddu Sac
Mon Loisir
Pl. des Papayes
Labourdonnais
St Antoine
Solitude
Pte Piments
St André
Belle Vue
Poudre d'Or
l'Arsenal
Powder Mills
Pamplemousses
Beau plan
Le Ravin
Tombeau bay
Terre Rouge
Port-Louis
Depinay
Pte Julie
Amaury
Plaine des Roches
L'aventure
Notre Dame
Eastern
Bell Village
Valley de Prêtres
Long Mountain
Congemond
Nouvelle Découverte
Villebague
Poste de Flacq
Vagrant Depot
Civil
Pailles
Pte Rivière
Crevecoeur
Ripaille
L'avenir
Brisée
Verdière
Centre de Flacq
Belle Mare
4 Cocos
Union Flacq
Queen Victoria
Constance
Lallmatie
Mt Ory
St Pierre
Beau-Bois
St Julien
Mont Roches
Moka
Mon Desert
L'esperance
Encroignard
Q. Militaire
C. de Masque
C. Ythier
Troudeau Douce
Bambous
Beau-Bassin
Mental
Rose Hill
Trianon
Dagotiere
Providence
Médine
Bel Air
Olivia
Standley
Highlands
Q. Bornes
Sébastopol
Deep River
Beau Champ
Flic en Flac
Victoria
Reunion
Camp Fouqueraux
Mt Blanche
4 Soeurs
Zovier
Vacoas
Orthopedic
Floreal
Curepipe
Sans Souci
Gd Sable
Tamarin
Old Midlands
Riv des Créoles
Bamboux Virieux
Hennetta
Cluny
Camp Bananes
Mare aux Vacoas
St Hubert
Bois des Amourettes
Riv Noire
Nouvelle France
Mare Chicose
Vieux Grand Port
Pont Colville
Rose-Belle
New Grove
Riche en Eau
Ferney
Mare d'Albert
Bel Air
Case Noyale
Grand Bois
Riv. du Paste
Savannah
Mon Trésor
Beau Vallon
La Goulette
Bois Chéri
La Mare Tabac
Mahebourg
Britannia
Camp Diable
Savinia
Plaine Magnien
La Morne
l'Escalier
3 Boutiques
C Accacia
Baie du Cap
Benares
Chemin Grenier
Suffrnam
Riv. des Anguilles
Bel Ombre
St Felix
Souillac
Union Duerut

1 Pamplemousses
2 Riv. du Rempart
3 Flacq
4 Moka
5 Port-Louis
6 Riv. Noire
7 Pl. Wilhems
8 Savanne
9 Grand Port

Drawn by L. de Réland.
Malaria Dwg Office. sept 9th 1962.

Annual Report on the Medical and Health Department 1951

Foreword

The improvement in health conditions which was such a conspicuous feature in the department's annual reports for the years 1949 and 1950, has been maintained despite continuing staff shortages, and the year 1951 has been one of the three healthiest on record in Mauritius. It is true that there has been some increase over the last twelve months in the crude death rate which rose from 13·9 per 1,000 in 1950 to 14·9 per 1,000 in 1951, but this slight increase is of little significance since there must be a levelling off after the impressive fall in the number of deaths which obtained as from the year 1949. It must be remembered that in 1947, then considered as a particularly good year, the death rate was 20·1, the lowest since 1870, and that the average was 27·7 for the decennial period 1938–47, and 21·1 for the period 1942–51.

The infantile mortality for 1951 was 84·5 per 1,000 as compared with 76·3 for 1950 and 91·0 for 1949 and it is gratifying to place on record for the third year running an infant mortality rate with a two-figure number. While the birth rate continued to remain at a high level, like the two previous rates, it showed variation, decreasing for 49·7 in 1950 to 47·5 per 1,000 in 1951.

It is certain that the striking success of the anti-malarial campaign has played a major part in bringing about the improvements noted since 1949 ; but there have also been other factors at play such as the absence of cyclones during the past six years, the prosperity of the sugar industry, the better standard of environmental hygiene and the greater interest taken by the population in general in health matters.

Notable events were the extension of our maternity service by the addition of a mobile ante-natal clinic which took the road in August 1951, the introduction of B.C.G. vaccination in May 1951 and the appearance on the Statute Book of an Ordinance providing for the control of trades and industries. Trades affecting public health are carried out under conditions which are none too good and the availability of special powers to deal with them was a crying need. Amongst other developments of special interest are the extension of modern anaesthetic methods to all our surgical centres and the expansion of the blood donors' panel under the auspices of the St. John Ambulance Association working in close liaison with the Department.

The year 1951 was, on the whole, favourable in regard to the inidence of infectious disease. No epidemic of any major infectious disease namely plague, cholera, yellow fever, small-pox and typhus has occurred for a considerable time and although Mauritius is congested with nearly half a million souls, the island compares favourably with many other parts of the world better placed and with greater resources in so far as sanitation is concerned.

As pointed out in last year's report, the people of this Colony are no longer prepared to suffer illness or confront ill-health with that passivity which until a few years ago appeared firmly established by its long continuance. They are fast becoming health conscious and are far more hospital and dispensary minded than they were in pre-war days. They constantly seek the aid of the medical services and numerous are those who now spontaneously cooperate with the Department in the preventive field. If it is true that improved facilities and the new drugs have been contributory in attracting more persons to the hospitals and dispensaries, it is equally true that the part played by the various Social Services, the Press, the Cinema and the Wireless in educating the inhabitants has been far from negligible. The Press has always shown extreme willingness to publish information on health matters and on measures advocated for the prevention of disease. An acknowledgement is also due to the Mauritius Broadcasting Service for its generous contribution in respect of our health talks and to the Public Relations Officer for assistance in the visual education of the people by means of his well organised mobile cinema service.

As in former years, the most cordial cooperation existed betwen all Government Services and this Department. The three Civil Commissioners, who are responsible for district administration, spared no efforts to assist the officers stationed in outlying districts in their difficult task. To one and all I wish to express my thanks and those of the Department's staff for their much appreciated support and help.

Our relations with the Senior Medical Officer, Military Hospital, the local branches of the British Medical Association, the Municipal Council of Port Louis and the Town Councils of Curepipe, Quatre Bornes and Rose Hill—Beau Bassin were as usual harmonious. The Department was on several occasions consulted by the local Authorities on matters affecting public health.

In expressing the Department's gratitude for the help given by various voluntary bodies, the following should be particularly mentioned: the Maternity and Child Welfare Society, the Mauritius Branch of the British Red Cross Society, the St. John Ambulance Association and Brigade and the Stretcher-bearers Association. Numerous ladies and gentlemen have willingly given their time to visit patients in various institutions, to help in diversional therapy at the Mental and Orthopaedic Hospitals and to sit on Committees connected with the Department. The public cannot thank them sufficiently in consequence. The unselfish service of the voluntary worker is of the greatest importance and as the Medical and Health Department expands, more and more assistance of all kinds will be required from the public-spirited. The Mauritius Branch of the Red Cross Society and the St. John Ambulance Association and Brigade automatically become essential auxiliaries to the established medical services in various emergencies and consequently they play a most important part in the life of the Colony.

During the year under review, visitors from overseas included the Countess of Limerick, O.B.E., vice-chairman of the British Red Cross Society ; Dr. Jean Gaud, of the Institute of Hygiene of Morocco, World Health Organization expert on Schistosomiasis ; Mr. C. B. Symes, O.B.E. of the Colonial Insecticides Committee ; and Mr. J. Hamon, Entomologist to the Department of Health, Réunion.

Functions of the Department

2. The functions of the Medical and Health Department are:—

(a) to investigate the influence of social, environmental and domestic factors on the incidence of human disease and disability ;

(b) to plan and carry out measures for the promotion of health ;

(c) to institute and maintain measures for the prevention of disease ;

(d) to provide a quarantine service to prevent the introduction of infectious disease by sea or air ;

(e) to provide facilities for treatment of disease, including mental disease, by maintenance of hospital and dispensary services ;

(f) to make provision for the rehabilitation of the disabled ;

(g) to control the practice of medicine, dentistry and pharmacy ;

(h) to provide facilities for the training of nurses, midwives and sanitary officers ;

(i) to advise local authorities regarding their health services and to inspect those services ;

(j) to prepare and publish reports and statistical or other information relating to health.

PART I

Administration

A. Staff

3. All the activities of the Department are coordinated by the Director of Medical Services assisted by two Deputy Directors under whom the following staff works:—

Three medical superintendents of hospitals.
Four specialists.
Twenty-eight medical officers.
Four part-time medical officers for the mobile dispensaries.
Two pathologists.
Two dentists.
Two chemists.
One entomologist.
One pharmacist.
One rehabilitation officer.
One visiting matron.
Three matrons.
One superintendent of midwives.
One sister in charge of the Orthopaedic Unit.
Two physiotherapists.
Two occupational therapists.
Thirteen laboratory assistants.
Twenty-eight senior dressers and nurses.
Two hundred and ninety-nine nurses and dressers.
Thirty-five midwives.
Twenty-two hospital attendants (including eight sisters of mercy).
Three Senior Sanitary Inspectors.
Fifty-five sanitary inspectors.
Three fieldmen.
Two storekeepers.
Thirty-two clerks.
Ten secretaries, clerical assistants and typists.
One steward in charge Quarantine Station.
One Transport Officer.
Nine hundred and ninety-nine others of minor ranks (which include messengers, drivers, hospital servants, rat catchers, etc.).

The personnel of the Malaria Organization which comprise:—
One medical officer.
One engineer.
One chemist.
One entomologist.
Nine inspectors and field officers.
Fifteen clerks and senior supervisors.
Nine hundred and fifty-two labourers, drivers, etc.

B. Staff Movements

4. During 1951 the following officers went on overseas leave:—

The Director of Medical Services (on leave prior to retirement) ;

The Orthopaedic Surgeon ;

1 Medical Superintendent ;

5 Medical Officers (including 2 on study leave) ;

The Senior Pathologist ;

1 Matron ;

1 Physiotherapist ;

1 Senior and 1 Junior Laboratory Assistants Pathology (on study leave) ;

1 Sanitary Inspector ;

2 Dressers ;

1 Ward Sister ;

The Superintendent of Midwives ;

1 Second Grade Clerk ;

1 Deputy Director ; and 1 Junior Laboratory Assistant Pathology went on a one month tour to the Chagos Archipelago, a dependency of Mauritius.

During the absence on leave of the above-mentioned Medical Officers temporary Medical Officers acted in their stead.

The following officers returned from overseas leave:—

4 Medical Officers ;

The Dentist ;

The Senior Pathologist ;

1 Dresser ;

1 Senior Sanitary Inspector ;

1 Sanitary Inspector, Grade I ;

1 Special Grade Clerk.

1 Second Grade Clerk.

The following appointments were made:—

3 Medical Officers ;

1 Pharmacist ;

1 Orthopaedic Surgeon ;

1 Sister in charge Orthopaedic Unit ;

1 Senior Nursing Sister.

One Physiotherapist resigned on medical grounds.

C. Financial

5. The revenue of the Colonial Government for the financial year 1950–51 was Rs. 60,315,771.67 of which Rs. 160,042.99 was received through the Medical and Health Department. The actual expenditure on Medical Services was Rs. 4,475,201 or 8·21 per cent of the total expenditure for the year, which amounted to Rs. 54,509,012. This represents a sum of Rs. 9.41 per head of the estimated population at 31st December, 1950 (mid-financial year).

Under the Development and Welfare Plan the revenue was Rs. 981,756.99 and the expenditure Rs. 1,926,684.

The following analysis of the general estimates indicates the distribution of the allocation:—

Medical and Health Department Estimates 1950–51

	Administration	%	*Medical Services*	%	*Health*	%	*Total*
Personal Emoluments	139,278	11·02	925,011	73·16	200,050	15·82	1,264,339
Other Charges :—							
Recurrent	56,500	1·76	2,019,228	64·75	1,064,636	33·49	3,210,862
Non-recurrent ...	—		59,986		10,512		
Total	195,778	4·37	3,004,225	67·13	1,275,198	28·50	4,475,201

These figures represent a total expenditure of Rs. 9.41 per head of population estimated at the middle of the financial year distributed as follows:—

Cost of Administrative Services per head	...	0·41
Cost of Medical Services per head ...	...	6·32
Cost of Health Services per head ...	...	2·68
Total	...	9·41

6. The expenditure under the Development and Welfare Plan totalled Rs. 1,926,684 ; out of which the assistance from the metropolitan Government amounted to Rs. 801,668 for permanent anti-malarial works and Rs. 193,168 for research on malaria and its local vectors.

Work carried out by other Government organizations concerned water supplies. Rs. 1,971,062 were spent by the Public Works Department. It is difficult to assess financially with any reasonable degree of precision the contribution of the Departments of Education, Social Welfare and Public Relations in regard to health education.

In addition to the above, account must be taken of the amounts spent on health services by local Authorities and by sugar estates. An indication of the extent of the health services on sugar estates is the fact that they have a total hospital accommodation of 738 beds.

D. Legal

7. The following legislation was passed: —

Ordinance No. 4, cited as the Public Health (Amendment) Ordinance, 1951, to amend section 193 of the Public Health Ordinance, 1925, respecting the power to make regulations for the transport of meat from a slaughter house to a market or a butcher's shop.

Ordinance No. 42, cited as the Midwives, (Amendment) Ordinance 1951 to amend subsections (1) and (2) of section 2 of the Midwives Ordinance 1926, as subsequently amended, as regards the members of the Midwives Board.

Ordinance No. 64, cited as the Dentists Ordinance, 1951, to make better provision for the regulation of the practice of dentistry.

Government Notice No. 109, cited as the Cemeteries (Amendment) Regulations, 1951, being regulations made by the Director of Medical Services under section 193 of the Public Health Ordinance, 1925, respecting hours of attendance of cemetery keepers.

Government Notice No. 111, cited as the Penicillin (Control of Imports and Distribution) (Cancellation) Ordinance 1951, to cancel the Order published under Government Notice No. 181 of 1946.

Government Notice No. 122, being regulations made by the Director of Medical Services under Heading IV of section 193 of the Public Health Ordinance, 1925, to amend paragraph 1 of Regulation 6 of the Regulations published under Government Notice No. 153 of 1926, as subsequently amended, to the effect that the right thumb print of a person employed in any trade or calling connected with the preparation or handling of food intended for sale and consumption by man shall be affixed to the medical certificate delivered to that person if the person is unable to sign his name.

Government Notice No. 164, being regulations made by the Director of Medical Services, under Section 193 of the Public Health Ordinance 1925, to fix charges to be paid for the transport of beef from a slaughter house to a market or a butcher's shop.

Government Notice No. 199, cited as the Pharmacy (addition to list of poisons) Ordinance, 1951, to add to Part I of Schedule A of the Pharmacy Ordinance, 1912, as repealed and replaced by the Schedule to Government Notice No. 33 of 1940, as subsequently amended, the following substances: —

Dihydrocodeine, its salts and any preparation, extract or other substance containing any proportion of dihydrocodeine,

Acetyldihydrocodeine, its salt and any preparation, extract or other substance containing any proportion of acetyldihydrocodeine,

4—Propionoxy—4—phenyl—1—methyl—3—ethylpiperidine, its salts and any preparation, extract or other substance containing any proportion of 4—Propionoxy—4—phenyl—1 methyl—3—ethylpiperidine, and

Methorphinan (3—Hydroxy—N.—methylmorphinan), its salts, and any preparation, extract or other substance containing any proportion of Methorphinan (3—Hydroxy—N.—methylmorphinan).

Proclamation No. 16, cited as the Dangerous Drugs Ordinance (Application) Proclamation, 1951, to extend the application of Part IV of the Dangerous Drugs Ordinance, 1950, to the following substances:—

Dihydrocodeine, its salts and any preparation, extract or other substance containing any proportion of acetyldihydrocodeine ;

Acetyldihydrocodeine, its salts and any preparation, extract or other substance containing any proportion of dihydrocodeine ;

4—Propionoxy—4—phenyl—1—methyl—3—ethylpiperidine, its salts and any preparation, extract or other substance containing any proportion of 4—Propionoxy—4—phenyl—1—methyl—3—ethylpiperidine ; and

Methorphinan (3—Hydroxy—N—methlmorphinan), its salts, and any preparation, extract or other substance containing any proportion of methorphinan (3—Hydroxy—N—methylmorphinan).

General Notice No. 200, under section 161 of the Public Health Ordinance 1925, to select and appoint portions of land in the district of Rivière du Rempart to be used as a public cemetery.

General Notice No. 224, under Section 161 of the Public Health Ordinance 1925, to appoint a portion of land at Savannah in the district of Grand Port to be used as a private cemetery.

PART II

Natural and Social Conditions

8. *Physiography.* The island of Mauritius lies between latitude 19°50′ and 20° 31′ South and longitude 57° 18′ and 57° 48′ East of Greenwich. The total length North to South is nearly 39 miles and its breadth East to West is 29 miles. The area of the main island is 716 square miles and that of the small islets round the coast 4 square miles, making a total of 720 square miles (460,800 acres). The ground rises to an elongated central plateau, lying roughly North—South, the altitude of which above sea level is 1800–1900 feet. It is bounded on the North, East and South—West by abrupt and broken mountain ridges. On the South and South—East it slopes gradually to the sea. The highest mountain peak is 2,711 feet.

The coast line is irregular and is surrounded by numerous coral reefs. There are two ports and several anchorages of minor importance ; the two ports are Port Louis on the North—West and Mahebourg on the South—East. Numerous sea-side resorts and bathing stations exist all round the coast.

Rivers and streams are numerous. They generally flow through large ravines and their course is frequently broken by waterfalls and rapids. None of the rivers are navigable and the regime of most of them is very variable: in dry weather they are little more than streams, while during heavy rains they swell to raging torrents.

9. *Climate.* Although Mauritius lies just within the tropics, its climate is on the whole comparatively mild and equable. There are, however, very sensible variations of climate in the different parts of the island.

From South to East the island is exposed to the normal trade wind currents. The North and Western Districts, the leeward side of the island, are consequently the driest and hottest.

The maximum shade temperature recorded on the Northern plains (180 feet above sea-level) has never exceeded 95° F (35° C) and over the Central table-land (1,800 feet) the maximum seldom reaches 80° F (27° C). The high relative humidity however renders the heat oppressive at certain times of the year and causes considerable discomfort specially in the lowlands. For the same reason, the winter in the highlands is disagreeably cold, although the temperature never falls below 45° F (7° C). The humid conditions along the coast are favourable for the breeding of the vectors of malaria. On the other hand, the sudden drops of temperature which are noticeable over the Central Plateau stimulate metabolism, and the diurnal and seasonal ranges of temperature which are met at that level render this plateau climatically better suited to the young and healthy than the narrower ranges encountered at the coast. Cases of heat-stroke which occur at continental stations in similar latitudes are almost unknown in Mauritius, but Europeans probably could not, except under very trying conditions, perform the manual field work required for agricultural purposes.

Rainfall is abundant but varies considerably in different parts of the island. The mean annual rainfall varies from less than 30 inches (760 millimetres) on the North and West coast to 150 inches (3·8 metres) in parts of the Central Plateau, where in some years it has been known to exceed 197 inches or 5 metres. The heavy summer rainfall begins in December, reaches a maximum between January and March and gradually decreases to the dry season in October and November. On the highlands, however, the winter rainfall, brought in by the trade winds, may be quite important. Tropical cyclones are frequent in the vicinity of Mauritius during the summer months (December to April) ; they have at times caused considerable damage to crops, trees and structures and even on rare occasions, caused loss of life.

10. *Social and Economic Conditions.* Although in relation to its resources, Mauritius is certainly considerably overpopulated, yet the density of population in the island is not overwhelmingly large, save perhaps in towns and villages where it easily matches some of the most densely populated regions of the globe. On the point of population density, Port Louis might easily compare with the Chinese province of Macao, while the larger villages would compare favourably with Hong Kong and Singapore. The present population is three times what it was a century ago.

The Mauritian population lives in the greatest measure on the proceeds of sales of its sugar. The island has been fortunate in having produced, in the absence of destructive storms, increasingly record sugar crops during the last six years, the production being now 56 per cent above its pre-war level. The whole island economy is however dependent on this single crop, which constitutes 97 per cent of the domestic exports in value. The Colony produces comparatively little food: maize, insignificant quantities of rice, some potatoes and other root crops, vegetables and fruits. The bulk of the food is accordingly imported from the East and Far East and from Australia.

The relative prosperity of the past few years has enabled certain improvements in public services and additional social welfare measures to be undertaken. The incidence of malaria has been reduced to a negligible figure; new projects concerning domestic water and electricity supplies and irrigation have been implemented ;new roads have been constructed ; additional hospital wards have been provided and the existing ones improved.

While this relative prosperity and the remarkable results achieved by anti-malarial measures have brought the death rates to a low level, there has been a larger increase in the reproductive rates of the population. Birth rates have reached the highest figure ever recorded and the natural growth of the population is now $6\frac{1}{4}$ times what it was in pre-war days. This exhorbitant natural growth constitutes one of the problems of the hour.

PART III

Laboratory Services

11. The Central Laboratory at Réduit is divided into two sections: bacteriological and chemical and it has two branch laboratories attached to the two main general hospitals at Port Louis and Quatre Bornes.

The total number of examinations made at the Central Laboratory and the branch laboratories continued to show an all round increase over the previous years: 64,151 in 1951 ; 50,234 in 1950 and 43,498 in 1949. The Department was fortunate in being able to secure the services of a qualified technician who arrived in the Colony during the year and she was appointed temporary assistant in October at a time when pressure of work was indeed excessive.

The report of the Senior Pathologist is appended (Appendix I).

12. In common with other countries, the demand for blood transfusion is on the increase in Mauritius. Thanks to the St. John Ambulance Association, a reasonable supply was available during the year through the panel of donors constituted by their enthusiastic secretary, but it is felt that there should be within the Department a blood transfusion Service accommodated in a suitable building and steps are proceeding in this connection. Meanwhile the Senior Pathologist who was on leave in the United Kingdom spent one month at the North London Blood Transfusion Centre and the Blood Group Reference Laboratory, Lister Institute, to study the technique of Rh grouping.

13. A survey of Schistosomiasis in Mauritius was started by the Pathologist in collaboration with the technical staff of the Central Laboratory.

The programme comprises: —

(i) The statistical collection and study of all cases of urinary schistosomiasis recorded at the laboratory, Civil Hospital and Victoria Hospital.

(ii) A survey of the schools to determine the incidence of the disease in school children of different age groups.

(iii) Experiments with mollusca in the laboratory and in a drain in the garden to determine the significant vector. So far cercariae have been found only in *Bulinus forskali* which confirms the discovery of Adams in 1935 that this snail is the local vector.

Apart from the routine cases recorded in the three laboratories, urines of 2,170 school children were examined. Of these 11·65 per cent were found positive.

A report of the first year's work has been submitted and is published as Appendix II of this report.

14. In the above-mentioned report, mention is made of the treatment of Schistosomiasis with Nilodin. The drug was experimented on 72 patients in the hospitals. Out of them, 16 were apparently cured, 31 continued to show signs of the disease, while in 25 cases, the results could not be ascertained since the patients failed to report to the medical officers as advised.

The percentage of success appears rather low, but so far no definite concluisons can be drawn and the experiment is continuing.

PART IV

Medical Services

15. It may be said that accessible treatment facilities are afforded to the whole population through the network of hospitals and dispensaries, whether fixed or mobile. The map appearing at the beginning of this report indicates the location of the hospitals and static dispensaries, the halting places of the mobile dispensaries and the mobile ante-natal clinic as well as the location of the Maternity and Child Welfare Centres and of the Health Offices. The centres on which are based the Ambulance Service are also shown.

16. At the beginning of this chapter, it is advisable to tabulate the health facilities which were available on the island in 1951. This is done in Table I:—

TABLE I

A. Medical and Health Staff	*Government*	*Private*
1. Registered doctors	38	61
2. Nurses of senior training	7	—
,, in hospitals	93	—
Dressers in hospitals	145	—
3. Superintendent of midwives	1	—
Midwives	34	—
4. Sanitary Inspectors	54	—
5. X-Ray Specialist	1	—
X-Ray technicians	2	—
6. Pharmacists	1	35

B. I. Government Institutions	*No. of Institutions*	*No. beds*
1. General Hospitals	8	1,184
2. Dispensaries (including 2 in the Prisons) ...	45	—
3. Specialized Units :—		
(*a*) Maternity and Child Welfare Centres ..	10	—
(*b*) Leprosarium	1	62
(*c*) Mental Hospital	1	653
(*d*) Orthopædic Hospital	1	210
(*e*) Prisons Hospitals	2	73
4. Mobile Units		
(i) Dispensaries	4 units	
(ii) Ante-natal clinic	1 unit	
II. Pirvate Institutions		
1. Sugar estates hospitals	33	738
2. Sugar estates dispensaries	8	
3. Nursing homes	5	53

(1) Hospitals

17. Table II shows the work performed at the various hospitals. 30,747 in-patients were treated during the year as compared with 28,303 for 1950 and 27,772 for 1949.

The demands on the hospitals for both indoor and outdoor treatment have been greater during the past years than ever before and in spite of the extensions carried out at the main hospitals since the end of the war, more accommodation has become an urgent necessity. Existing wards are often overcrowded, out-patient departments which were planned years ago can no longer cope adequately with all the extra work, with the result that a heavy burden is laid on the staff, both medical and nursing.

Treatment kept pace with the most recent developments and modern drugs which include the sulpha drugs, penicillin, chloramphenicol, streptomycin and others continued to be used on an ever increasing scale. The progress effected in the therapeutic side was reflected in the substantial increase in the provision for drugs in the Estimates.

Buildings

18. For various reasons, among which an important one was scarcity of building materials, the departmental building programme could not proceed according to plan. The extensions to the Mental Hospital continued and were nearing completion at the close of the year under review. Construction of the medical officer's quarters at Mahebourg in Grand Port and of staff quarters at Civil Hospital, Port Louis, started during the year. Detailed drawings for the Nurses' Home at Civil Hospital, Port Louis, were completed and tenders for the erection of that building will be invited as soon as the Quantity Surveyor has finished his task. Plans for the Orthopaedic and Rehabilitation Centre are still under consideration, on account of difficulties due to increased building costs. The construction of the Orthopaedic Centre is becoming a most pressing requirement, since the temporary huts at Floréal, in which are accommodated the victims of the two previous epidemics of poliomyelitis who require further treatment and the other orthopaedic cases, are getting more and more decrepit.

Throughout the period under review, repairs and redecoration proceeded satisfactorily in Victoria, Flacq and Moka Hospitals.

Equipment

19. The quality of the hospital services is being improved year after year by the provision of modern equipment. More new bedsteads were received and the replacement of the old-fashioned mattresses by hygienic latex foam mattresses continued on a larger scale. All the hospitals are now supplied with refrigerators. Two electro-cadiographs specially made for the tropics are on the way.

Personnel

20. The medical and nursing staff of the Department continued to bear a heavy burden owing to the very large number of patients coming up for examination or applying for admission into the hospitals. There were eight medical officers on study or vacation leave in Europe, of whom one was completing the course for the Diploma in Radiotherapy, two were studying for the Diploma in Public Health, one for the Diploma in Tuberculosis and two were following courses in surgery at the London Post-Graduate Medical School. The medical establishment was increased during the year by three medical officers, and it was also possible to secure the services of two medical practitioners on a part-time basis. The medical officer who was taking a course in Anaesthesia obtained the Diploma in Anaesthetics in November 1950 and returned to the Colony in April 1951.

TABLE II

Report on Hospitals (Calendar Year 1951)

Hospital	*Patients remaining on 31.12.50*	*Total admissions*	*Deaths*	*Patients remaining on 31.12.51*	*Number of beds*	*Number of patients on any date during period under review*		*Medical cases*	*Surgical cases*	*Number of operations performed on*		*Births in Hospital*		*Still Births*
						Maximum	*Minimum*			*in-patients*	*out-patients*	*Born alive at term*	*Premature births*	
Civil	241	8,126	550	208	410	390	202	5,191	2,935	1,608	2,992	685	47	123
Long Mountain...	27	2,171	25	19	65	74	17	1,646	525	80	463	22	1	4
Poudre d'Or ...	15	2,112	19	—	70	69	14	1,487	625	282	230	27	2	5
Flacq	28	2,668	42	15	85	90	15	1,791	877	102	498	62	6	5
Mahebourg ...	34	2,666	78	29	105	106	29	2,151	515	248	581	102	10	31
Souillac	37	3,619	69	40	103	116	37	2,067	1,552	437	116	82	—	20
Moka	21	1,805	50	26	83	80	20	1,201	604	457	551	48	2	7
Victoria	194	6,411	332	216	263	269	189	4,224	2,187	1,414	4,310	615	57	102
Mental (Infirmary only)* ...	5	317	21	10	64	51	12	300	17	89	—	—	—	—
Industrial School	6	242	—	4	16	13	1	116	126	5	—	—	—	—
Beau Bassin Prisons ...	12	353	—	11	57	26	9	253	100	100	11	—	—	—
Floréal†	161	248	5	153	210	209	153	125	123	880	752	—	—	—
Leper	48	9	1	52	62	52	48	9	—	—	—	—	—	—
Totals ...	829	30,747	1,192	783	1,593	1,545	746	20,561	10,186	5,702	10,504	1,643	125	297

*Figures shown are for physical cases only. The Mental Hospital has a total bed strength of 653.

†Hospital for Poliomyelitis and Orthopaedic cases.

PANORAMIC VIEW OF VICTORIA HOSPITAL, QUATRE BORNES

It is once more disappointing to have to record the difficulty in recruiting medical staff. It is impossible to get medical officers from overseas and the supply of Mauritian doctors who started their medical studies at the end of the war has just begun. It will be some time yet before it can have any appreciable effect on the local situation. On the other hand, conditions of service, which are no longer consistent with the needs of the moment, are not good enough to attract suitable candidates and this important matter is at present under active consideration by a Salaries Commission appointed by Government.

During 1951, eight new nurses and twenty-five new dressers were appointed, but the Department is still far short of the numbers required to meet the needs of an expanding service. Improvements in the conditions under which the nursing staff works which had a favourable effect on recruitment during recent years are now clashing with the deterioration caused to approved rates of remuneration by the high cost of living. As in the case of medical officers and in fact of all other officers, the situation will doubtless be remedied in the fairly near future, and thus help to maintain the flow of recruits.

Radiological Work

21. The number of examinations carried out during the year showed a considerable increase: 12,726 as compared with 8,780 in 1950 and 8,379 in 1949.

Details are as under:—

Skeleton	6,295
Alimentary tract	2,227
Chest	3,725
Abdominal organs ...	479

More radiological equipment which includes an additional diagnostic plant, one deep X-Ray therapy and one superficial therapy units were received and will be put in use as soon as the radiological department included in the plans of the Orthopaedic Centre is ready. That part of the new building will have priority during the construction.

A supply of radium amounting to 98 milligrammes is available.

Surgery

22. Progress was maintained in the surgical centres despite difficulties of staff. More improvements in technique took place during the year under review and the introduction of modern methods of anaesthesia was a forward step of great importance. All the operating theatres are now provided with up-to-date anaesthetic equipment.

Table III indicates the surgical work performed in all the public hospitals:—

TABLE III

Nature of Operations	*Number performed*
(1) Stomach and Duodenum :—	
(*a*) Closure of perforation	30
(*b*) Gastro-enterostomy	51
(*c*) Gastrectomy	39
(*d*) Others	3
(2) Intestines :—	
(*a*) Closure of wounds and perforations	9
(*b*) Resection and or anastomosis	2
(*c*) Reduction of volvulus	5
(*d*) Reduction of Intussusception	4
(*e*) Division of adhesions or bands	7
(*f*) For any other cause of obstruction	5
(*g*) Formation or closure of artificial anus	10
(*h*) Appendicectomy	226
(*i*) Drainage of peritoneal abscesses	7
(*j*) Omentopexy	—
(*k*) Exploratory Laparatomy	36
(*l*) Others	7
(3) Rectum and Anus :—	
(*a*) Excision of rectum	4
(*b*) Treatment of prolapse	43
(*c*) For fissure and fistula	50
(*d*) For ischio-rectal abscess	20
(*e*) Ligature of haemorrhoids	96
(*f*) Injection of haemorrhoids	16
(*g*) Sigmoidoscopy	1
(*h*) Others	8
(4) Hernia :—	
(*a*) Inguinal	142
(*b*) Femoral	5
(*c*) Umbilical	3
(*d*) Others	13
(5) Liver, Spleen and Pancreas :—	
(*a*) Upon liver	1
(*b*) Cholecystectomy	5
(*c*) Other operation upon gall bladder	2
(*d*) Splenectomy	1
(*e*) For pancreatitls	—
(*f*) Others	3
(6) Urinary System :—	
(*a*) Nephrotomy	—
(*b*) Nephrectomy	5
(*c*) Perinephric explorations	—
(*d*) Upon Ureters	5
(*e*) Cystotomy and supra public drainage	22
(*f*) Prostatectomy	9
(*g*) Urethrotomy	6
(*h*) For urethral fistula and abscess	2
(*i*) Cystoscopy and ureteric catheterization	5
(*j*) Urethral catheterization and passage of sounds	28
(k) Others	10

Nature of Operations	*Number performed*
(7) MALE ORGANS OF GENERATION :—	
(*a*) Circumcision	56
(*b*) Others for paraphimosis	96
(*c*) Amputation of penis	—
(*d*) Hydrocelotomy	94
(*e*) For variococele	2
(*f*) Upon testis and epididymis	8
(*g*) Others	43
(8) FEMALE ORGANS OF GENERATION :	
(*a*) Ovariotomy	21
(*b*) Salpingotomy	6
(*c*) Salpingostomy for sterility	2
(*d*) Myomectomy	1
(*e*) Hysterectomy	46
(*f*) Hysteropexy	12
(*g*) Cæsarian section	25
(*h*) Uterine suture	—
(*i*) For extra-uterine gestation	8
(*j*) Drainage of pelvic abscess	3
(*k*) Instrumental delivery and destruction of fœtus	99
(*l*) For vesico or recto-vaginal fistula :—	
(i) Plastic repair	13
(ii) Uretero-colic anastomosis	3
(*m*) Colporrhaphy and perineorrhaphy	26
(*n*) Removal of uterine contents and/or dilatation and curettage	224
(*o*) Induction of labour or abortion	1
(*p*) Insufflation of fallopian tubes	—
(*q*) Uterine drainage	—
(*r*) Examination and/or manipulation of uterus or fœtus	51
(*s*) Upon cervix	78
(*t*) Others	26
(9) EYE :	
(*a*) For entropion	25
(*b*) For cataract	123
(*c*) For glaucoma	3
(*d*) Iridectomy	17
(*e*) Enucleation and evisceration	16
(*f*) Others	409
(10) EAR, NOSE AND THROAT :—	
(*a*) Myringotomy	—
(*b*) Mastoidotomy	8
(*c*) Removal of foreign bodies	44
(*d*) Reduction of nasal fracture	1
(*e*) Resection of septum	13
(*f*) Turbinectomy and/or drainage of sinuses	15
(*g*) Removal of tumors	43
(*h*) Tonsillectomy, by guillotine	771
(*i*) Tonsillectomy, by dissection (both including removal of adenoids,	40
(*j*) For quinsy	17
(*k*) Uvulotomy	—
(*l*) Laryngoscopy, bronchoscopy and œsophagoscopy	7
(*m*) Others	131
(11) MOUTH AND NECK :—	
(*a*) Extraction of teeth	2,714
(*b*) Upon jaws (including treatment of fractures)	12
(*c*) Upon tongue and lips (including removal of tumors, but excluding plastic)	16
(*d*) Excision or treatment of glands in neck	7
(*e*) Tracheotomy	20
(*f*) Thyroidectomy (including ligature of thyroid vessels)	2
(*g*) For thyri-glossal cysts	10
(*h*) Others	12

Nature of Operations	*Number performed*
(12) CHEST :—	
(*a*) Thoracotomy and pleural drainage	3
(*b*) Lobectomy	—
(*c*) Upon cardia	—
(*d*) Phrenic avulsion	21
(*e*) Artificial pneumothorax	76
(*f*) Paracentesis	11
(*g*) Others	4
(13) MAMMARY GLANDS :—	
(*a*) Mastectomy	17
(*b*) Excision of tumour	10
(*c*) Incision of abcess	209
(14) CRANIUM :	
(*a*) Decompression and treatment of fracture and hæmorrhage	8
(*b*) For intracranial tumour	—
(*c*) Drainage of intracranial abcess	—
(*d*) Others	5
(15) SPINAL COLUMN :—	
(*a*) Laminectomy	11
(*b*) Bone graft	4
(*c*) Manipulation and/or external fixation (for tuberculosis, fracture and other conditions, including application of plaster jacket)	163
(*d*) Lumbar and cisternal puncture	37
(*e*) Spinal injection	11
(*f*) Others	59
(16) BONES :—	
(*a*) For fractures—	
(i) Open operations (including bone graft, application of plates and other mechanical aids)	86
(ii) Manual and instrumental reduction and/or application of splints and plaster	998
(*b*) For osteomyelitis, osteitis and periostitis :—	
(i) Acute	16
(iii) Chronic (including sequestrectomy and/or application of plaster)	93
(*c*) Removal of tumours	7
(*d*) Others	275
(17) JOINTS :	
(*a*) Arthrotomy :	
(i) For sepsis	1
(ii) For removal of loose or foreign bodies	10
(*b*) Excision of joint	8
(*c*) Reduction of dislocation	51
(*d*) Manipulation for other purposes	15
(*e*) External fixation (including application of plaster)	116
(*f*) Aspiration	31
(*g*) Others	23
(18) AMPUTATIONS :—	
(*a*) Of fingers	27
(*b*) Of hand and forearm	5
(*c*) Of arm	2
(*d*) Of toes	30
(*e*) Of foot and leg	19
(*f*) Of thigh	10
(*g*) Others	2
(19) ARTERIES, VEINS AND NERVES :—	
(*a*) For aneurysm	1
(*b*) Ligature of vessels	8
(*c*) For angioma	3
(*d*) Injection of varicose veins	110
(*e*) Nerve suture and neurolysis	4
(*f*) Others upon nerves (including stretching and injection)	19
(*g*) Others	25

Nature of Operations	*Number performed*
(20) ORTHOPAEDIC AND PLASTIC OPERATIONS :—	
(*a*) Osteotomy (for deformities)	9
(*b*) Other treatment of deformities and contractures (including manipulation and application of splints and plaster)	352
(*c*) For hare lip and cleft palate	12
(*d*) Upon ears, nose and lips	—
(*e*) For elephantiasis	11
(*f*) Skin graft	26
(*g*) Others	5
(21) CONDITIONS UNCLASSIFIED REGIONALLY :—	
(*a*) For ulcers (excluding skin graft)	Nil
(*b*) For other septic conditions (including incision of abscesses and whitlows)	3,797
(*c*) Suture and treatment of wounds (including tendon suture)	1,056
(*d*) Excision of superficial tumours (including cysts)	352
(*e*) Extraction of foreign bodies	185
(*f*) Removal of glands	17
(*g*) For bursitis and ganglion	6
(*h*) Treatment of burns	8
(*i*) Remouval of parasites	Nil
(*j*) Others	962

23. *Orthopaedic Surgery*. The Medical Superintendent, Floréal Hospital reports as follows:—

DETAILS OF WORK CARRIED OUT AT FLOREAL HOSPITAL DURING 1951

No. of patients in Hospital 31st December 1950	161
No. of patients in Hospital 31st December 1951	153

I. CASES ADMITTED DURING CALENDAR YEAR 1951

A. Poliomyelitis :—		
(*a*) Acute cases	15	
(*b*) Old cases	55	
		70
B. Orthopaedic :—		
(*a*) Tuberculosis ot the skeleton system	47	
(*b*) Diseases of bones and joints	61	
(*c*) Injuries	26	
(*d*) Congenital deformities	10	
(*e*) Miscellaneous	46	
		190
TOTAL		260

II. OPERATIONS

	Major	*Minor*	*Total*
Victoria Hospital in Patients,	120	567	687
Floreal Hospitals Out Patients,	27	725	752
TOTAL	147	1,292	1,439

III. TOTAL NUMBER OF PATIENTS WEARING INSTRUMENTS UNDER SUPERVISION

Poliomyelitis Cases	669
Orthopaedic cases	334
TOTAL	1,003

IV. ATTENDANCES OF PATIENTS AT DOCTOR'S CONSULTATIONS

Attendances	1,131
Re-attendances	3,081
TOTAL	4,212

A.	Attendances of poliomyelitis cases	464	
			464
B.	Attendances of Orthopaedic cases :—		
	(*a*) Tuberculosis	126	
	(*b*) Injuries...	1,392	
	(*c*) Miscellaneous	2,230	
			3,748
	TOTAL		4,212

Distributions of attendances at :—

Floreal Hospital	2,794
Victoria Hospital	1,014
(Jan–May and Oct–Dec)	
Civil Hospital	92
(Oct. to Dec.)	
District Clinics	312
(Oct. to Dec.)	
	4,212

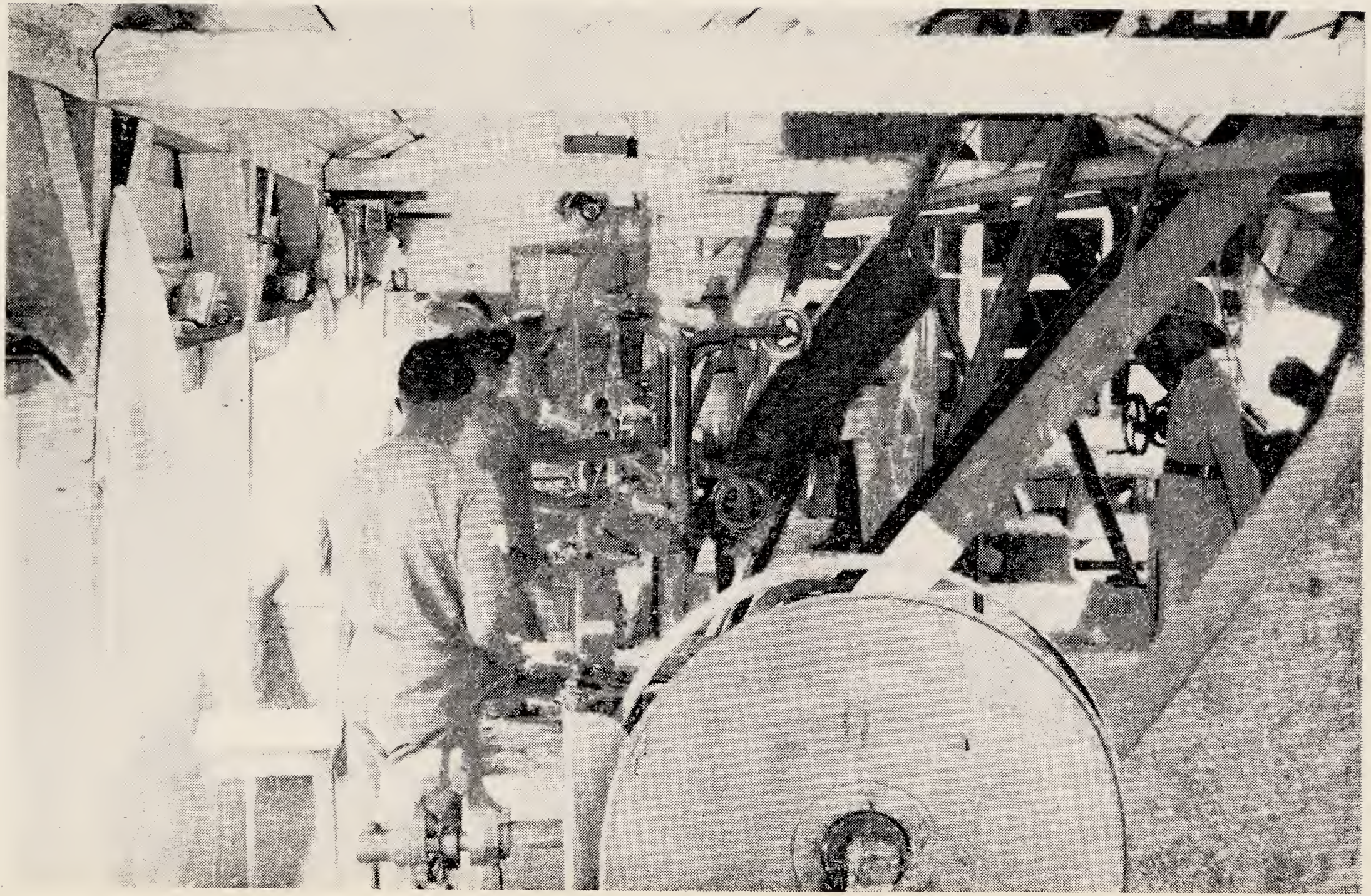
V. ATTENDANCES AT PHYSIOTHERAPY DEPARTMENT

In patients	15,273
Out Patients	15,159
	30,432

24. *Ophthalmic Work.* The ophthalmological service is under a part-time specialist who holds four weekly sessions at the two main hospitals. He is also on call for all emergencies.

The following figures summarise the work performed by him:—

Diseases	*Civil Hospital*		*Victoria Hospital*		*Total*
	Indoor	*Outdoor*	*Indoor*	*Outdoor*	
Conjonctivitis and ophthalmia ...	9	513	12	419	953
Blepharitis...	1	—	—	58	59
Hordeolum	—	96	—	20	116
Iritis	1	41	6	31	79
Keratitis	6	74	12	53	145
Uveal tract disease	5	41	—	13	59
Optic nerve and retina	3	14	—	—	17
Lachymal sac and duct	2	2	22	17	43
Other inflammatory diseases.....	6	14	61	23	104
Refractive errors	1	255	—	90	346
Corneal ulcers	9	68	20	22	119
Corneal opacities...	4	33	7	20	64
Pterygium	2	59	—	17	78
Strabismus	—	2	1	—	3
Cataract	48	131	209	137	525
Glaucoma	3	7	10	10	30
Other diseases of eye	6	39	15	214	274
Burns	—	—	—	1	1
Open wound of eye and orbit ...	—	—	10	—	10
Retained foreign body	—	—	3	—	3
Foreign body cornea	3	—	—	137	140
OPERATIONS					
Cataract		32	93		125
Iridectomy...		4	13		17
Trephining for glaucoma ...		1	3		4
Enucleation		1	5		6
Pterygium, chalazion, flaps, plastic, excision of lachrymal sacs, etc., etc		22	182		204



PART OF THE ORTHOPAEDIC WORKSHOP

25. *Dental Work.* The Government Dental Surgeon returned from overseas leave in February and work was resumed at the Civil Hospital Dental Clinic which had been closed down during his absence on account of scarcity of practising dentists in Mauritius.

As in previous years, dental treatment was confined to pre-school children, school children, expectant and nursing mothers, hospital cases and members of the Police Force.

In the course of 404 sessions, treatment was given to 10,623 patients and the attendances were as follows:—

Preschool children	983
School children...	6,799
Expectant and Nursing Mothers	1,244
Hospital Cases (In-Patients)	428
Hospital cases (Out-Patients)...	912
Members of Poliee Force	257
TOTAL	10,623

The nature of treatment was:—

Fillings inserted in permanent teeth ...	5,425
Permanent teeth extracted	879
Deciduous teeth extracted	2,945
Surgical operations on jaws	737
Treatment of parodontal disease	843
Luetic cases	6
Osteomyelitis of the jaws	20
Fractures	12
Skiagrams	36

26. *Mental Hospital.* The report on the work of this hospital is at Appendix III.

27. The statistics of morbidity and mortality in respect of hospitals and dispensaries are in Table IV. Statistics for mobile dispensaries are shown separately in this table, only figures for attendances being given as there is a considerable amount of uncertainty as regards new cases and reappearances, the use of a card system having been found impracticable for the mobile units. The main causes of morbidity are enumerated in Table V.

(2) DISPENSARIES

28. The construction of the two new dispensary buildings at Triolet in the district of Pamplemousses and at Petite Rivière in the district of Black River could not start during 1951. Financial provision continues to be available and the detailed drawings are ready.

There are 45 fixed dispensaries in the Colony. The mobile dispensary service, which caters for the needs of 64 villages and hamlets, consists of four units under four part-time medical practitioners. These units made 821 trips in 1951 and were attended by 107,214 patients. The total attendances at fixed dispensaries and at outpatient departments of hospitals numbered 362,946. The figures for the two preceding years were 303,549 in 1950 and 374,207 in 1949.

TABLE IV

Statistics of Morbidity and Mortality—Year 1951

Cause Groups	Detailed List Numbers	Static Dispensaries and out-patient depts of hospitals			Hospitals (in-patients)						Mobile Dispensaries Attendances
		New cases			Male patients		Female patients				
		Male	Female	Total cases	New cases	Deaths	New cases	Deaths	Total cases	Total deaths	
A 1. Tuberculosis of respiratory system	001–008	108	77	185	287	50	181	18	468	68	44
A 2. Tuberculosis of meninges and central nervous system ...	010	—	—	—	2	1	4	2	6	3	—
A 3. Tuberculosis of intestines, peritoneum and mesenteric glands	011	1	—	1	4	—	2	—	6	—	—
A 4. Tuberculosis of bones and joints	012–013	3	2	5	26	—	13	—	39	—	—
A 5. Tuberculosis, all other forms ...	014–019	11	15	26	6	—	9	—	15	—	—
A 6. Congenital syphilis	020	20	18	38	9	—	14	2	23	2	15
A 7. Early syphilis	021	64	64	128	11	—	4	—	15	—	—
A 8. Tabes dorsalis	024	1	—	1	1	—	—	—	1	—	—
A 9. General paralysis of insane ...	025	—	—	—	—	—	—	—	—	—	—
A 10. All other syphilis	022–023 026–029	255	258	513	80	4	108	1	188	5	1
A 11. Gonococcal infection	030–035	216	27	243	49	—	1	—	50	—	11
A 12. Typhoid fever	040	—	—	—	164	22	143	16	307	38	—
A 13. Paratyphoid fever and other Salmonella infections	041–042	—	—	—	—	—	—	—	—	—	—
A 14. Cholera	043	—	—	—	—	—	—	—	—	—	—
A 15. Brucellosis (undulant fever) ...	044	—	—	—	—	—	—	—	—	—	—
A 16.—(*a*) Bacillary dysentery	045	11	8	19	7	—	2	1	9	1	8
(*b*) Amoebiasis	046	721	461	1,182	93	1	44	—	137	1	17
(*c*) Other unspecified forms of dysentery	047–048	731	477	1,208	75	1	27	1	102	2	1,257
A 17. Scarlet fever	050	—	—	—	—	—	—	—	—	—	—
A 18. Streptococcal sore throat ...	051	—	—	—	1	—	—	—	1	—	—
A 19. Erysipelas	052	—	2	2	1	—	9	—	10	—	1
A 20. Septicaemia and pyaemia ...	053	—	—	—	4	3	7	3	11	6	—
A 21. Diphtheria	055	6	8	14	31	6	28	6	59	12	—
A 22. Whooping cough	056	4	1	5	—	—	2	—	2	—	—
A 23. Meningococcal infections ...	057	—	—	—	—	—	—	—	—	—	—

A 24. Plague	058	—	—	—	—	—	—	—	—	—	—
A 25. Leprosy	060	—	—	—	—	—	—	—	—	—	—
A 26. Tetanus	061	1	1	2	52	23	40	14	92	37	—
A 27. Anthrax	062	—	—	—	—	—	—	—	—	—	—
A 28. Acute poliomyelitis	080	—	—	—	—	—	—	—	—	—	—
A 29. Acute infectious encephalitis ...	082	—	—	—	—	—	—	—	—	—	—
A 30. Late effects of acute poliomyelitis and acute infectious encephalitis	081, 083	1	2	3	—	—	—	—	—	—	—
A 31. Smallpox	084	—	—	—	—	—	—	—	—	—	—
A 32. Measles	085	2	1	3	—	—	—	—	—	—	—
A 33. Yellow fever	091	—	—	—	—	—	—	—	—	—	—
A 34. Infectious hepatitis	092	20	16	36	29	2	10	2	39	4	39
A 35. Rabies	094	—	—	—	—	—	—	—	—	—	—
A 36.—(*a*) Louse-borne epidemic typhus	100	—	—	—	—	—	—	—	—	—	—
(*b*) Flea-borne endemic typhus murine	101	—	—	—	—	—	—	—	—	—	—
(*c*) Tick-borne epidemic typhus	104	—	—	—	—	—	—	—	—	—	—
(*d*) Mite-borne typhus	105	—	—	—	—	—	—	—	—	—	—
(*e*) Other and unspecified typhus	102, 103 106—108	—	—	—	—	—	—	—	—	—	—
A 37.—(*a*) Vivax malaria (benign tertian)	110	5	5	10	—	—	1	—	1	—	—
(*b*) Malariae malaria (quartan)...	111	—	—	—	—	—	—	—	—	—	—
(*c*) Falciparum malaria (malignant tertian)	112	—	1	1	—	—	—	—	—	—	—
(*d*) Blackwater fever	115	—	—	—	—	—	—	—	—	—	—
(*e*) Other and unspecified forms of malaria	113, 114 116, 117	597	643	1,240	44	4	53	—	97	4	9,020
Carrieed over		2,778	2,087	4,865	976	117	702	66	1,678	183	10,413

TABLE IV—*continued*

STATISTICS OF MORBIDITY AND MORTALITY—YEAR 1951

Cause Groups	*Detailed List Numbers*	*Static Dispensaries and out-patient depts of hospitals*			*Hospitals*						*Mobile Dispensaries Attendances*
		New cases		*Total cases*	*Male patients*		*Female patients*		*Total cases*	*Total Deaths*	
		Male	*Female*		*New cases*	*Deaths*	*New cases*	*Deaths*			
Brought forward											
A 38.—(*a*) Schistosomiasis vesical (S. haematobium) ...	123·0	299	141	440	49	—	34	—	83	—	23
(*b*) Schistosomiasis intestinal (S. Mansoni)	123·1	—	—	—	—	—	—	—	—	—	—
(*c*) Schistosomiasis pulmonary (S. japonicum)	123·2	—	—	—	—	—	—	—	—	—	—
(*d*) Other and unspecified Schistosomiasis	123·3	—	—	—	—	—	—	—	—	—	—
A 39. Hydatid disease	125	—	—	—	—	—	—	—	—	—	—
A 40.—(*a*) Onchocerciasis	127	—	—	—	—	—	—	—	—	—	—
(*b*) Loiasis	—	—	—	—	—	—	—	—	—	—	—
(*c*) Filariasis (bancrofti) ...	—	34	42	76	54	—	15	—	69	—	3
(*d*) Other filariasis	—	—	—	—	—	—	—	—	—	—	—
A 41. Ankylostomiasis	129	2,656	3,467	6,123	311	—	278	—	589	—	13,370
A 42.—(*a*) Tapeworm (infestation) and other cestode infestations	126	—	—	—	4	—	1	—	5	—	1
(*b*) Ascariasis	130·0	4,855	5,467	10,322	51	—	67	—	118	—	5,713
(*c*) Guinea worm (dracunculosis)	130·3	—	—	—	—	—	—	—	—	—	—
(*d*) Other diseasss due to helminths	124, 128 130·1, 130·2	1,239	1,246	2,485	29	—	29	—	58	—	891
A 43.—(*a*) Lymphogranuloma venereum	037	—	—	—	—	—	1	—	1	—	—
(*b*) Granuloma inguinale, venereal	038	2	1	3	1	—	1	—	2	—	—
(*c*) Other and unspecified venereal diseases	039	11	—	11	3	—	12	—	15	—	—
(*d*) Food poisoning infection and intoxication	049	—	—	—	3	—	1	—	4	—	—

(*e*) Relapsing fever	071	—	—	—	—	—	—	—	—	—	—
(*f*) Leptospirosis icterohaemorrhagica (Weil's disease) ...	072	—	—	—	—	—	—	—	—	—	—
(*g*) Yaws	073	—	—	—	—	—	—	—	—	—	—
(*h*) Chickenpox	087	10	2	12	3	—	1	—	4	—	20
(*i*) Dengue	090	—	—	—	—	—	—	—	—	—	—
(*j*) Trachoma	095	—	—	—	1	—	1	—	2	—	—
(*k*) Sandfly fever	096·7	—	—	—	—	—	—	—	—	—	—
(*l*) Leishmaniasis	120	—	—	—	—	—	—	—	—	—	—
(*m*):—(i) Trypanosomiasis gambiensis	121	—	—	—	—	—	—	—	—	—	—
(ii) Trypanosomiasis rhodesiensis	—	—	—	—	—	—	—	—	—	—	—
(iii) Other and unspecified Trypanosomiasis ...	—	—	—	—	—	—	—	—	—	—	—
(*n*) Dermatophytosis	131	29	24	53	2	—	2	—	4	—	16
(*o*) Scabies	135	1,784	1,421	3,205	61	—	34	—	95	—	7,145
(*p*) All other diseases classified as infective and parasitic	036,054,059, 063,064,070, 074,086,088, 089,093,096·1 096·6,096·8, 096·9,122 132—134 136—138	193	134	327	29	1	20	—	49	1	26
A 44. Malignant neoplasm of buccal cavity and pharynx	140–148	1	2	3	5	2	3	—	8	2	—
A 45. Malignant neoplasm of oesophagus	150	—	—	—	5	—	2	1	7	1	—
A 46. Malignant neoplasm of stomach	151	2	—	2	22	1	9	—	31	1	—
A 47. Malignant neoplasm of intestine, except rectum	152, 153		—	—	4	1	6	1	10	2	—
A 48. Malignant neoplasm of rectum ...	154	—	—	—	11	1	4	1	15	2	—
A 49. Malignant neoplasm of larynx ...	161	—	—	—	4	2	1	—	5	2	—
A 50. Malignant neoplasm of trachea, and of bronchus and lung not specified as secondary	162, 163	—	—	—	5	1	—	—	5	1	—
A 51. Malignant neoplasm of breast ...	170	—	4	4	—	—	22	3	22	3	—
A 52. Malignant neoplasm of cervix uteri	171	—	4	4	—	—	71	2	71	2	—
Carried over		13,893	14,042	27,935	1,633	126	1,317	74	2,950	200	37,621

TABLE IV—*continued*

STATISTICS OF MORBIDITY AND MORTALITY—YEAR 1951

Cause Groups	*Detailed List Numbers*	*Static Dispensaries and out-patient depts of hospitals*			*Hospitals*						*Mobile Dispensaries Attendances*
		New cases		*Total cases*	*Male patients*		*Female patients*		*Total cases*	*Total deaths*	
		Male	*Female*		*New cases*	*Deaths*	*New cases*	*Deaths*			
Brought forward											
A 53. Malignant neoplasm of other and unspecified parts of uterus ...	172–174	—	2	2	—	—	18	1	18	1	—
A 54 Malignant neoplasm of prostate ...	177	—	—	—	1	—	—	—	1	—	—
A 55. Malignant neoplasm of skin ...	190, 191	1	2	3	2	—	6	—	8	—	—
A 56. Malignant neoplasm of bone and connective tissue	196, 197	—	—	—	3	1	2	—	5	1	—
A 57. Malignant neoplasm of all other and unspecified sites	155–159, 160, 164, 165, 175, 176, 178–181, 192–195, 198, 199	1	1	2	10	2	21	1	31	3	—
A 58. Leukæmia and aleukaemia ...	204	—	—	—	1	1	2	1	3	2	—
A 59. Lymphosarcoma and other neoplasms of lymphatic and hæmatopoietic system	200–203, 205	1	3	4	8	—	5	—	13	—	—
A 60. Benign neoplasms and neoplasms of unspecified nature	210–239	23	25	48	24	2	135	4	159	6	—
A 61. Nontoxic goiter	250, 251	1	18	19	1	—	6	—	7	—	1
A 62 Thyrotoxicosis with or without goiter	252	3	1	4	1	1	4	—	5	1	—
A 63. Diabetes mellitus	260	68	132	200	102	5	130	7	232	12	38
A 64.—(*a*) Beriberi	280	—	1	1	2	—	3	1	5	1	—
(*b*) Pellagra	281	10	21	31	5	1	18	—	23	1	3
(*c*) Scurvy	282	1	10	11	2	1	2	—	4	1	—
(*d*) Other deficiency states ...	283–286	966	1,906	2,872	109	15	149	21	258	36	1,642
A 65.—(*a*) Pernicious and other hyperchromic anæmias ...	290	38	105	143	13	4	22	2	35	6	4
(*b*) Iron deficiency anæmias (hypochromic)	291	143	321	464	43	—	127	—	170	—	2,559

(*c*) Other specified and unspecified anaemias	292, 293	4,062	15,084	19,146	862	21	1,938	46	2,800	67	11,995
A 66.—(*a*) Asthma	241	1,329	1,464	2,793	242	2	212	4	454	6	1,472
(*b*) All other allergic disorders endocrine, metabolic and blood diseases	240–242–245 253, 254 270–277 287–289 294–299	252	281	533	24	1	21	—	45	1	331
A 67. Psychoses	300–309	2	3	5	148	1	97	—	245	1	—
A 68. Psychoneuroses and disorders of personality	310–324, 326	20	33	53	71	—	55	1	126	1	7
A 69. Mental deficiency	325	7	14	21	37	—	28	—	65	—	2
A 70. Vascular lesions affecting central nervous system	330–334	34	11	45	123	25	60	8	183	33	33
A 71. Nonmeningococcal meningitis ...	340	—	—	—	22	15	26	15	48	30	—
A 72. Multiple sclerosis	345	—	—	—	—	—	—	—	—	—	—
A 73. Epilepsy	353	107	131	238	74	4	47	1	121	5	64
A 74. Inflammatory diseases of eye ...	370–379	1,638	1,420	3,058	120	—	106	—	226	—	906
A 75. Cataract	385	161	266	427	118	—	161	—	279	—	18
A 76. Glaucoma	387	9	9	18	4	—	8	—	12	—	3
A 77.—(*a*) Otitis externa	390	210	204	414	6	—	3	—	9	—	1,154
(*b*) Otitis media and mastoiditis	391–393	1,059	986	2,045	38	—	27	—	65	—	638
(*c*) Other inflamatory diseases of ear	394	582	568	1,150	1	—	4	—	5	—	454
A 78.—(*a*) All other diseases and conditions of eye	380–384 386, 388 389	602	480	1,082	57	—	35	—	92	—	32
(*b*) All other diseases of the nervous system and sense organs	341–344 350–352 354–357 360–369 395–398	1,364	1,921	3,285	212	5	138	3	350	8	1,709
A 79. Rheumatic fever	400–402	7	11	18	22	3	37	—	59	3	5
A 80. Chronic rheumatic heart disease	410–416	1	3	4	6	—	5	—	11	—	—
A 81. Arteriosclerotic and degeneraive heart disease	420–422	34	42	76	68	20	36	7	104	27	9
A 82. Other diseases of heart	430–434	193	324	517	127	28	109	17	236	45	250
A 83. Hypertension with heart disease	440–443	10	19	29	6	1	3	—	9	1	24
A 84. Hypertension without mention of heart	444–447	244	390	634	51	2	34	—	85	2	36
Carried over		27,076	40,254	67,330	4,399	287	5,157	214	9,556	501	61,010

TABLE IV—*continued*

STATISTICS OF MORBIDITY AND MORTALITY—YEAR 1951

	Cause Groups	Detailed List Numbers	Static Dispensaries and out-patient depts of hospitals			Hospitals						Mobile Dispensaries Attendances
			New cases		Total cases	Male patients		Female patients		Total cases	Total deaths	
			Male	Female		New cases	Deaths	New cases	Deaths			
	Brought forward											
A	85. Diseases of arteries	450–456	100	144	244	108	6	19	1	127	7	54
A	86. Other diseases of circulatory system	460–468	464	426	890	228	2	83	1	311	3	59
A	87. Acute upper respiratory infections	470–475	718	947	1,665	62	—	41	—	103	—	4,957
A	88. Influenza	480–483	10,620	11,435	22,055	456	1	332	1	788	2	8,603
A	89. Lobar pneumonia	490	17	5	22	199	14	93	13	292	27	8
A	90. Bronchopneumonia	491	17	11	28	84	20	56	9	140	29	5
A	91. Primary atypical, other and unspecified pneumonia	492, 493	19	7	26	106	8	50	1	156	9	—
A	92. Acute bronchitis	500	929	726	1,655	121	2	68	1	189	3	284
A	93. Bronchitis, chronic and unqualified	501, 502	1,941	1,047	2,988	406	15	212	6	618	21	604
A	94. Hypertrophy of tonsils and adenoids	510	538	788	1,326	87	—	94	—	181	—	36
A	95. Empyema and abcess of lung ...	518, 521	3	2	5	16	3	8	3	24	6	—
A	96. Pleurisy	519	48	26	74	98	1	46	3	144	4	17
A	97.—(*a*) Pneumoconiosis	523	—	—	—	—	—	—	—	—	—	—
	(*b*) All other respiratory diseases	511–517, 520–522, 524–527	665	697	1,362	120	10	65	2	185	12	399
A	98.—(*a*) Dental caries	530	9,400	10,395	19,795	62	—	104	—	166	—	487
	(*b*) All other Diseases of teeth and supporting structures...	531–535	784	468	1,252	59	—	43	—	102	—	1,601
A	99. Ulcer of stomach	540	40	15	55	38	1	12	1	50	2	—
A	100. Ulcer of duodenum	541	137	15	152	245	17	12	1	257	18	4
A	101. Gastritis and duodenitis	543	486	663	1,149	87	—	49	1	136	1	1,501
A	102. Appendicitis	550–553	33	61	94	141	4	171	—	312	4	—
A	103. Intestinal obstruction and hernia	560,561,570	155	27	182	239	18	28	8	267	26	1

A 104.—(*a*) Gastro-enteritis and colitis, between 4 weeks and 2 years	571·0	1,887	1,510	3,397	91	19	98	14	189	33	526
(*b*) Gastro-enteritis and colitis, ages 2 years and over ...	571·1	1,090	973	2,063	130	13	110	8	240	21	695
(*c*) Chronic enteritis and ulcerative colitis	572	35	34	69	24	3	26	5	50	8	—
A 105. Cirrhosis of liver	581	10	2	12	16	4	9	1	25	5	12
A 106. Cholelithiasis and cholecystitis	584, 585	53	75	128	38	1	48	1	86	2	16
A 107. Other diseases of digestive system	536–539, 542,544,545, 573–580,582, 583,586,587	11,751	11,246	22,997	718	27	359	8	1,077	35	7,024
A 108. Acute nephrits	590	38	25	63	29	1	20	2	49	3	44
A 109. Chronic, other and unspecified nephritis	591–594	82	97	179	98	8	96	11	194	19	57
A 110. Iufections of kidney	600	11	17	28	25	2	28	—	53	2	—
A 111. Calculi of urinary system ...	602, 604	26	46	72	27	—	6	—	33	—	—
A 112. Hyperplasia of prostate	610	—	—	—	23	3	—	—	23	3	—
A 113. Diseases of breast	620, 621	—	213	213	—	—	49	—	49	—	16
A 114.—(*a*) Hydrocele	613	161	—	161	101	—	—	—	101	—	24
(*b*) Disorders of menstruation	634	—	1,223	1,223	—	—	59	—	59	—	183
(*c*) All other diseases of the genito-urinary system	601, 603, 605–609, 611–612, 614–617, 622–633, 635–637	1,117	2,868	3,985	335	5	426	4	761	9	255
A 115. Sepsis of pregnancy, childbirth and the puerperium	640,641,681, 682,684	—	16	16	—	—	44	5	44	5	—
A 116. Toxaemias of pregnancy, and the puerperium	642,652, 685,686	—	44	44	—	—	188	13	188	13	—
A 117. Haemorrhage of pregnancy and childbirth	643,644, 670–672	—	11	11	—	—	63	11	63	11	—
A 118. Abortion without mention of sepsis or toxaemia	650	—	103	103	—	—	353	—	353	—	—
A 119. Abortion with sepsis	651	—	9	9	—	—	7	1	7	1	—
Carried over		70,451	86,671	157,122	9,016	495	8,732	350	17,748	845	88,482

TABLE IV—*continued*

STATISTICS OF MORBIDITY AND MORTALITY—YEAR 1951

Cause Groups	*Detailed List Numbers*	*Static Dispensaries and out-patient depts of hospitals*			*Hospitals*						*Mobile Dispensaries Attendances*
		New cases		*Total cases*	*Male patients*		*Female patients*		*Total cases*	*Total deaths*	
		Male	*Female*		*New cases*	*Deaths*	*New cases*	*Deaths*			
Brought forward											
A 120.—(*a*) Other complications of pregnancy, child birth and the puerperium	645–649, 673–680, 683, 687–689	—	2,838	2,838	—	—	493	22	493	22	352
(*b*) Delivery without complications	660	—	—	—	—	—	1,630	—	1,630	—	—
A 121. Infections of skin and subcutaneous tissue	690–698	7,071	4,694	11,765	1,136	4	576	3	1,712	7	3,661
A 122. Arthritis and spondylitis ...	720–725	377	516	893	143	1	110	—	253	1	141
A 123. Muscular rheumatism and rheumatism, unspecified	726, 727	3,454	4,379	7,833	170	—	129	—	299	—	6,168
A 124. Osteomyelitis and periostitis ...	730	21	8	29	57	1	27	1	84	2	4
A 125. Ankylosis and acquired musculoskeletal deformities	737, 745–749	17	7	24	11	—	13	—	24	—	3
A 126.—(*a*) Chronic ulcer of skin (including tropical ulcer, ...	715	98	56	154	24	—	11	—	35	—	99
(*b*) All other diseases of skin ...	700–714, 716	2,269	2,192	4,461	218	1	109	2	327	3	2,466
(*c*) All other diseases of musculoskeletal system	731–736, 738–744	281	214	495	102	—	45	—	147	—	26
A 127. Spina bifida and meningocele ...	751	—	1	1	1	1	4	2	5	3	—
A 128. Congenital malformations of circulatory system	754	—	—	—	—	—	1	—	1	—	—
A 129. All other congenital malformations	750, 752, 753, 755–759	13	13	26	40	8	15	1	55	9	3
A 130. Birth injuries	760, 761	1	—	1	12	12	13	7	25	19	—
A 131. Postnatal asphyxia and atelectasis	762	—	—	—	16	16	14	11	30	27	—
A 132.—(*a*) Diarrhœa of newborn (under 4 weeks) ...	764	25	17	42	2	—	1	—	3	—	558
(*b*) Ophthalmia neonatorum ...	765	—	—	—	2	—	2	—	4	—	—
(*c*) Other infections of newborn	763, 766–768	32	22	54	7	3	6	1	13	4	3
A 133. Haemolytic disease of newborn	770	—	—	—	—	—	1	1	1	1	—
A 134. All other defined diseases of early infancy	769, 771, 772	9	5	14	16	13	20	10	36	23	50
A 135. Ill-defined diseases peculiar to											

(*b*) Observation, without need for further medical care	793	304	61	365	102	—	129	—	231	—	—
(*c*) All other ill-defined causes of morbidity	780–787, 788·1–788·7, 788·9, 789–792, 795	4,993	6,113	11,106	511	31	494	16	1,005	47	3,038
SUB-TOTAL		90,755	109,225	199,980	11,699	630	12,657	450	24,356	1,080	106,488
"E CODE". ALTERNATIVE CLASSIFICATION OF AOCIDENTS, POISONINGS AND VIOLENCE (EXTERNAL CAUSE)											
AE 138. Motor vehicle accidents ...	E 810–E 835	67	13	80	300	19	45	5	345	24	—
AE 139. Other transport accidents	E 800–E 802, E 840–E 866	386	29	415	223	11	30	1	253	12	—
AE 140. Accidental poisoning	E 870–E 895	3	3	6	32	1	21	2	53	3	—
AE 141. Accidental falls	E 900–E 904	3,008	962	3,970	725	9	265	1	990	10	283
AE 142. Accident caused by machinery	E 912	86	9	95	77	2	5	—	82	2	—
AE 143. Accident caused by fire and explosion of combustible material	E 916	26	8	34	16	2	12	—	28	2	—
AE 144. Accident caused by hot substance, corrosive liquid, steam, and radiation ...	E 917, E 918	240	131	371	113	10	105	13	218	23	65
AE 145. Accident caused by firearm ...	E 919	3	—	3	11	—	1	—	12	—	—
AE 146. Accidental drowning and submersion	E 929	—	—	—	2	—	—	—	2	—	—
AE 147. Foreign body entering eye and adnexa	E 920	478	72	550	12	—	3	—	15	—	—
Foreign body entering other orifice	E 923	62	49	111	2	—	10	—	12	—	—
Accidents caused by bites and stings of venomous animals and insects	E 927	17	15	32	3	—	1	—	4	—	—
Other accidents caused by animals	E 928	285	140	425	13	—	8	—	21	—	—
AE 148. All other accidental causes	E 910–E 911, E 913–E 915, E 921–E 922, E 924–E 926, E 930–E 965, E 970–E 979	16,037	3,329	19,366	1,656	20	444	5	2,100	25	378
Carried over		111,453	113,985	225,438	14,884	704	13,607	477	28,491	1,181	107,214

TABLE IV—*continued*

STATISTICS OF MORBIDITY AND MORTALITY—YEAR 1951

Cause Groups	*Detailed List Numbers*	*Static Dispensaries and out-patient depts of hospitals*			*Hospitals*						*Mobile Dispensaries Attendances*
		New cases			*Male patients*		*Female patients*				
		Male	*Female*	*Total case*	*New cases*	*Deaths*	*New cases*	*Deaths*	*Total cases*	*Total deaths*	
AE 149. Homicide and injury purposely inflicted by other persons (not in war)	E 980–E 985	302	97	399	409	5	139	—	548	5	—
AE 150. Injury resulting from operations of war	E 990–E 999	—	—	—	—	—	—	—	—	—	—
TOTAL		111,755	114,082	225,837	15,293	709	13,746	477	29,039	1,186	107,214
Sub-total to A 137 *brought forward* ...		90,755	109,225	199,980	11,699	630	12,657	450	24,356	1,080	106,488
"N CODE". ALTERNATIVE CLASSIFICATION OF ACCIDENTS, POISONINGS AND VIOLENCE (NATURE OF INJURY)											
AN 138. Fracture of skull	N 800–N 804	1	1	2	72	26	11	2	83	28	—
AN 139. Fracture of spine and trunk ...	N 805–N 809	22	4	26	71	8	16	—	87	8	—
AN 140. Fracture of limbs	N 810–N 829	462	193	655	434	5	164	5	598	10	—
AN 141. Dislocation without fracture ...	N 830–N 839	28	16	44	26	—	3	—	29	—	1
AN 142. Sprains and strains of joints and adjacent muscles	N 840–N 848	348	95	443	60	—	13	—	73	—	40
AN 143. Head injury (excluding fracture)	N 850–N 856	945	236	1,181	224	3	60	—	284	3	3
AN 144. Internal injury of chest, abdomen, and pelvis	N 860–N 869	26	4	30	15	7	—	—	15	7	—
AN 145. Laceration and open wounds	N 870–N 908	9,425	2,086	11,511	1,045	3	206	1	1,251	4	147
AN 146. Superficial injury, contusion and crushing with intact skin surface	N 910–N 929	8,045	1,708	9,753	1,075	1	314	—	1,389	1	459
AN 147. Effects of foreign body entering through orifice	N 930–N 936	566	127	693	21	1	13	—	34	1	—
AN 148. Burns	N 940–N 949	266	139	405	116	11	113	13	229	24	65
AN 149. Effects of poisons	N 960–N 979	3	3	6	67	9	51	4	118	13	—
AN 150. All other and unspecified effects of external causes	N 950–N 959 N 980–N 999	863	245	1,108	368	5	125	2	493	7	11
		111,755	114,082	225,837	15,293	709	13,746	477	29,039	1,186	107,214

TABLE V

Main Causes of Morbidity—1951

Diseases	*In-patients at hospitals*	*Out-patients at hospitals and Dispensaries*
Syphilis and its sequelae	227	680
Dysentery, all forms	248	2,409
Malaria	98	1,251
Ankylostomiasis	589	6,123
Other diseases due to helminths	181	12,807
Avitaminosis and other deficiency states	290	2,915
Asthma	454	2,793
Inflammatory diseases of eye	226	3,058
Influenza	788	22,055
Pneumonia	588	76
Bronchitis	807	4,643
Diseases of teeth and supporting structures	268	21,047
Gastro-enteritis and colitis (ages 2 years and over)	240	2,063
Complications of pregnancy, childbirth and the puerperium	1,148	3,021
Infections of skin and subcutaneous tissue	1,712	11,765
Scabies	95	3,205
Muscular rheumatism and rheumatism unspecified	299	7,833
Accidents, poisonings and violence	4,683	25,857
Anaemias	3,005	19,753

(3) Training of Nursing Staff

29.—*(a)* The object of obtaining reciprocity with Great Britain is kept constantly in mind and a new scheme of training based on that in the United Kingdom was introduced in 1948. The course of training now lasts three years for the general nursing certificate, while one additional year is required for the midwifery qualification. The newly qualified nurse is appointed to the Service and is given every possible facility for training in midwifery and obtaining the certificate. They have been made aware that they will be considered for promotion to the higher posts only if they hold the midwifery qualification.

(b) A permanent Committee comprising one of the Deputy Directors, the Visiting Matron and the matrons of the two training centres deal with enlistment of probationers. In the course of the interview given to each candidate, simple tests for suitability are used and the educational qualifications, which vary enormously in the case of female candidates, are taken into account. Every effort is made to attract candidates with a suitable educational background, experience having conclusively shown that those with a low educational standard find the greatest difficulty in the theoretical part of the syllabus.

(c) It has not yet been been possible to recruit sister tutors on the salary scale appearing in the Estimates. The appointment of these officers remains a pressing need which I trust will be met when the Salaries Commissioner has completed his task.

(d) The construction of the Nurses' Home for Civil Hospital is due to begin in the second half of 1952. When completed, it will permit of the adoption of the " Block " system at least at one of the two training centres and will provide adequate facilities for recreation and rest.

(e) There were 135 students under training on 31st December, 1951, of whom 44 are due to take the final examination in April 1952 and 67 the preliminary. The number of dressers and nurses who passed their final examination in 1951 was 30.

(f) Three nursing students are still undergoing training in England. A fourth one returned to the Colony on the 9th December, 1951, after having qualified as State Registered Nurse.

PART V

Public Health

(1) Vital Statistics

30. Table VI is a summary of vital statistics for the year 1951.

Area of Mauritius : 20 square miles

	Males	*Females*	*Total*
Estimated population as on 30th June, 1951 ...	241,241	242,618	483,859
Density per square mile : 672	—	—	—
Marriages 3,080	—	—	—
Marriage rate per 1,000 population : 12·7 ...	—	—	—
Live-births	11,778	11,190	22,968
Live births per 1,000 population : 47·5 ...	—	—	—
Still-births 1,401	—	—	—
Still birth rate per 100 live births 6·1	—	—	—
Deaths	3,788	3,420	7,208
Crude death rate per 1,000 population : 14·9	—	—	—
Maternal deaths 78	—	—	—
Maternal mortality rate per 1,000 births (live... and still) : 3·2	—	—	—
Infant mortality (under 1 year of age)	1,073	845	1,918
Infant mortality rate per 1,000 births : 84·5 ...	—	—	—
Deaths from Pulmonary Tuberculosis... ...	139	86	225
Death rate from pulmonary tuberculosis per 1,000 population : 0·47 ...	—	—	—
Deaths from other forms of tuberculosis ...	4	6	10
Death rate from other forms of Tuberculosis... per 1,000 population : 0·02	—	—	—
Deaths from infective and parasitic diseases ...	442	421	863
Death rate from infective and parasitic diseases per 1,000 population : 1·8	—	—	—
Deaths from respiratory diseases	609	463	1,072
Death rate from respiratory diseases per 1,000 population : 2·2 ...	—	—	—
Deaths from diseases of the digestive system...	711	624	1,335
Death rate from diseases of the digestive system per 1,000 population : 2·8	—	—	—
Deaths from Malaria and Malarial Cachexia...	133	152	285
Death rate from Malaria and Malarial Cachexia per 1,000 population : 0·59	—	—	—

(i) *Population*

31.—*(a)* The estimated population of Mauritius as at 31st December, 1951, was 494,519, exclusive of the pioneers who are in military employment overseas.

The natural increase, that is due to excess of births over deahts, in 1951 was 15,760. In the general population (including Chinese) this increase was 4,861 and in the Indian 10,899, while arrivals in the Colony exceeded departures by 2,013 and 1,360 respectively. The density of population was 672 per square mile for the whole island.

The population at 31st December, 1951, was sub-divided as follows:—

Population	*Males*	*Females*	*Total*	*No. of males per 1,000 females*
General (excluding Chinese) ...	77,793	84,673	162,466	956
Chinese	9,287	6,364	15,651	
Indian	160,779	155,623	316,402	1,033
Total	247,859	246,660	494,519	1,005

All the rates in this report are based on the estimated mid-year population which was 483,859.

(b) There has been a remarkable increase in the population of Mauritius over the last five years. For the five-year period 1942–46, the rate of natural increase computed on the mid-year population was 7·93, for the ten-year period 1942–51, it was 18·45, and in the last five years, the rate of natural increase was 28·97 per thousand.

The graph at Figure I shows the population trend from 1934 onwards.

(ii) *Births*

32.—*(a)* The number of live births during the year was 22,968 a decrease of 142 on the number for 1950 and an increase of 5,657 on the yearly average number of births for the ten years preceding 1951:—

Population	*Births*			*Male births per 1,000 female births*
	Males	*Females*	*Total*	
General (including Chinese) ...	3,764	3,553	7,317	1,059
Indian	8,014	7,637	15,651	1,049
WHOLE POPULATION ...	11,778	11,190	22,968	1,053

The following are the birth rates, the two figures in brackets relating to 1949 and 1950:—

General population	42·0	(37·3 ; 40·7)
Indian population...	50·5	(51·0 ; 54·8)
Total population	47·5	(46·0 ; 49·7)

(b) Still-births, which are not included as either births or deaths, numbered 1,401 (766 males and 635 females) giving a rate of 6·1 per hundred live births. During the year 1950 there were 1,410 still-births which gave a rate of 6·1.

(iii) *Deaths*

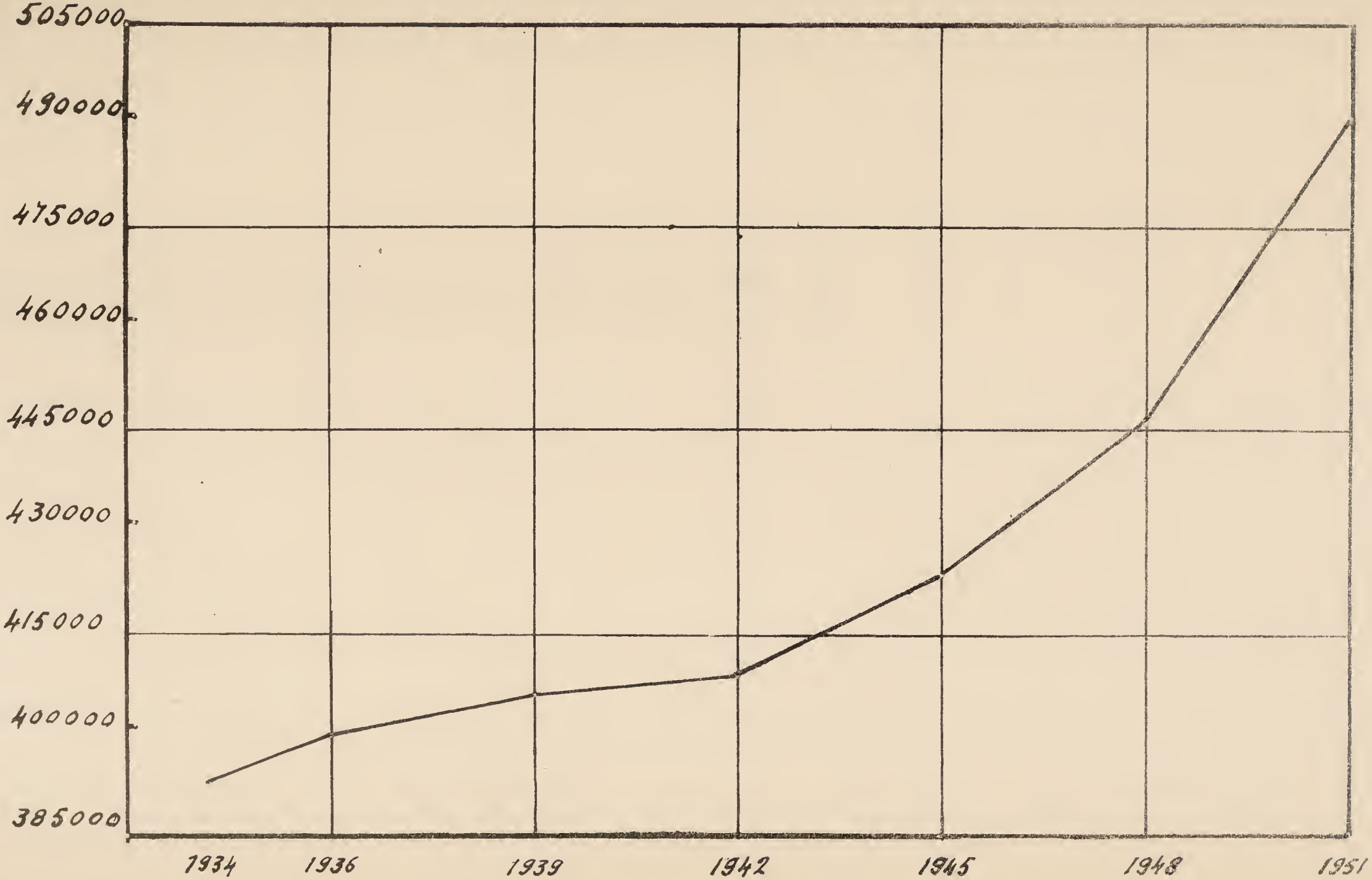
33.—*(a)* Deaths registered in Mauritius numbered 7,208, corresponding to a rate of 14·9 per 1,000 of the population. The month of maximum mortality was August with 683 deaths. In 1950 the highest figure was recorded in April with 619 deaths ; in 1949 the maximum occurred in August: 718 deaths.

	General Population		*Indian Population*		*Total*	
	Males	*Females*	*Males*	*Females*	*Males*	*Females*
No. of deaths	1,295	1,161	2,493	2,259	3,788	3,420
Rates per 1,000	14·1		15·3		14·9	

The average death rates for the period 1942–51 were 21·1 for the general, 25·2 for the Indian and 23·7 for the whole population.

GRAPH I

TREND OF POPULATION 1934 - 1951



(b) The folllowing table gives a comparison of the causes of death for the past five years with the rates per 1,000 of the population:—

TABLE VII

Group	*No. of Deaths 1951*	*Rate per 1,000*				
		1951	*1950*	*1949*	*1948*	*1947*
1. Infective and parasitic diseases	863	1·8	2.1	3·60	9·2	5·47
2. Cancer and other tumours	103	0·2	0·3	0·27	0·2	0·17
3. Rheumatism, diseases of nutrition	134	0·3	0·2	0·28	0·3	0·26
4. Diseases of the blood and blood forming organs	483	1·0	0.8	1·05	1·0	1·33
5. Chronic poisoning and intoxication	1	—	—	—	—	—
6. Diseases of the nervous system and sense organs	437	0·9	0·8	0·82	0·8	0·78
7. Diseases of the circulatory system	399	0·8	0·9	0·85	0·6	0·48
8. Diseases of the respiratory system	1,072	2·2	2·1	1·87	3·0	2·06
9. Diseases of the digestive system	1,335	2·8	2·0	2·21	2·4	2·37
10. Diseases of the urinary and genital system (non-venereal or connected with pregnancy or the puerperium)	272	0·6	0·6	0·64	0·6	0·69
11. Diseases of pregnancy and childbirth and the puerperal state	78	0·2	0·2	—	—	—
12. Disease of the skin and cellular tissue ...	28	0·1	0·1	0·05	0·1	0·11
13. Diseases of the bones and organs of movement.	8	—	—	0·01	—	—
14. Congenital malformation	14	—	—	—	—	—
15. Diseases pecular to the 1st year of life ...	793	1·6	1·7	1·89	2·3	2·61
16. Senility, old age	248	0·5	0·4	0·50	0·6	0·88
17. Death from violence	197	0·4	0·4	0·42	0·4	0·40
18. Ill-defined causes of death	743	1·5	1·3	1·66	1·9	2·17

34.—*(a)* The percentage contributions to the total deaths made by the more important groups are shown below in Table VIII:—

TABLE VIII

Group	*Percentage of total deaths Five years (1947-51)*				
	1951	*1950*	*1949*	*1948*	*1947*
1. Infective and parasitic diseases	11·9	15·1	21·7	38·5	27·2
4. Diseases of the blood and bloodforming orrans	6·7	5·8	6·3	4·2	6·6
6. Diseases of the nervous system and sense organs	6·0	5·9	5·1	3·5	3·9
7. Diseases of the circulatory system ... 16. Senllity, old age	8·9	9·4	5·1	5·5	6·7
8. Diseases of the respiratory system	14·8	15·1	11·2	12·5	10·2
9. Diseases of the digestive system	18·5	14·1	14·7	10·2	11·8
15. Diseases peculiar to the first year of life ...	11·0	12·1	11·4	9·5	13·0

(b) The decline in the percentage of mortality due to infective and parasitic diseases which had been very apparent in 1950 continued in 1951, the principal disease responsible for this fall being malaria.

Deaths from this group of diseases which numbered 4,052 in 1948, 1,603 in 1949, 975 in 1950 fell to 863 in 1951, a figure equivalent to 1·78 per 1,000 living.

(c) Diseases of the respiratory system (which do not include tuberculosis) accounted for 14·87 per cent of the total deaths as compared with 15·15 per cent in 1950 and 11.25 per cent in 1949.

(d) The deaths due to diseases of the digestive system, which include diarrhoea and enteritis rose from 913 in 1950 to 1,335 in 1951. The rate per 1,000 living was 2·76 as compared with 1·96 for the preceding year.

(e) The number of deaths due to diseases peculiar to the first year of life was 793 in 1951, as compared with 782 in 1950, 842 in 1949 and 1,009 in 1948. The rate per 1,000 living in 1951 was 1·6 as compared with 1·7 for 1950 and 1·9 for 1949.

(f) The graph at Figure II illustrates the fall in the principal death-dealing diseases in Mauritius for the ten-year period 1942–1951.

(g) Table IX shows the number of deaths from the principal causes for the ten-year period 1942–1951.

(h) The graph at Figure III is published to indicate the trend of crude birth and death rates in Mauritius from 1921 onwards.

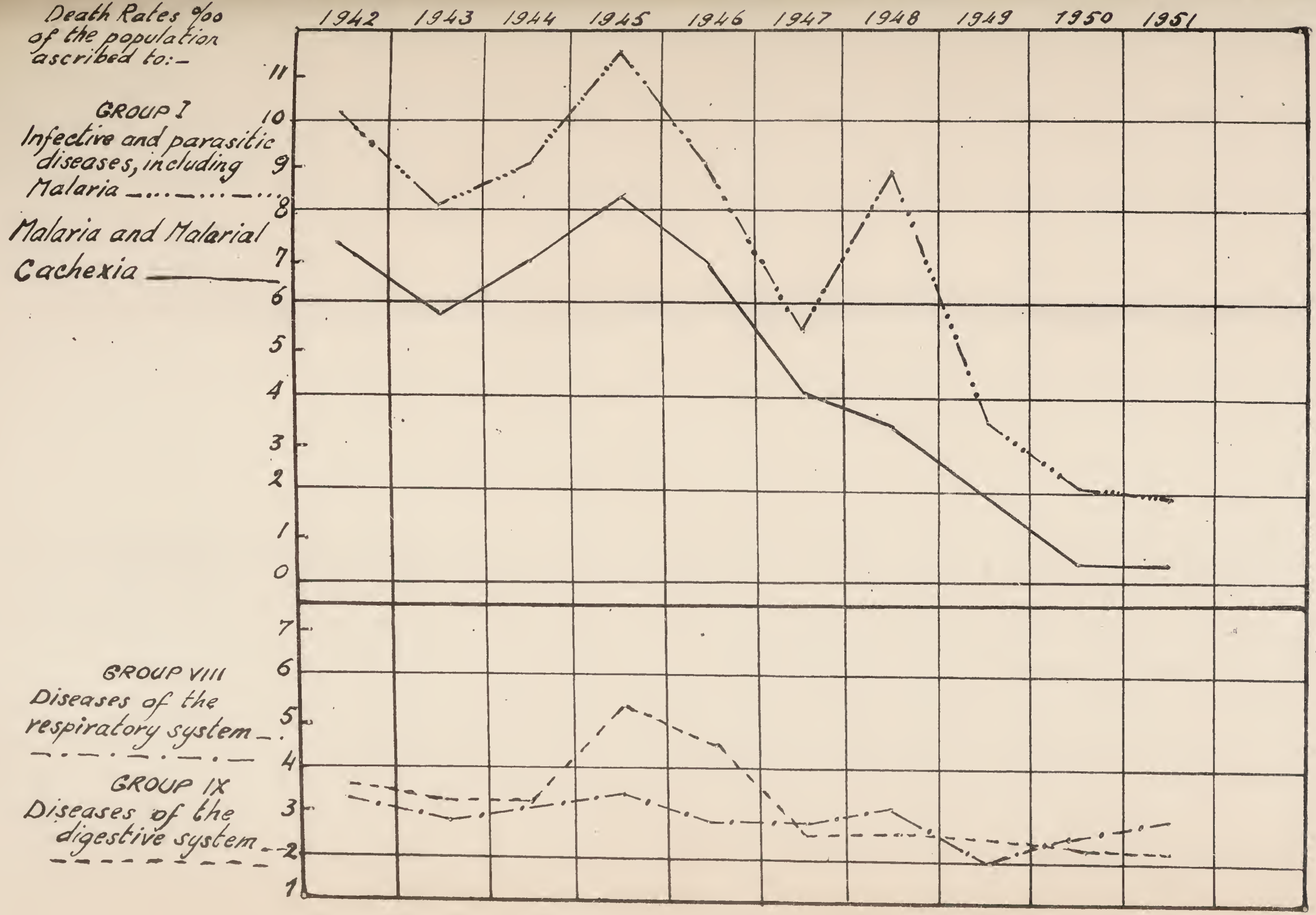
35.—*(a) Diseases of pregnancy, childbirth and the puerperal state.* 78 deaths were registered in this group, classified as follows:—

Abortion without mention of septic conditions...	1
Other diseases and accidents of pregnancy	12
Puerperal toxaemias	8
Other accidents of childbirth	57
TOTAL	78

(b) The maternal mortalityrate. The number of deaths ascribed to the puerperal state per 1,000 births (including still-births) was 3·24. The rates for the previous five years were as follows:—

1946	10·39
1947	5·25
1948	4·13
1949	3·80
1950	3·64

COLONY DEATH RATES PER 1,000 POPULATION FROM PRINCIPAL CAUSES 1942 - 1951



Crude Birth and Death Rates per 1,000 Total Population 1921-1951

Rate per 1,000 Total Population

50
45
40
35
30
25
20
15
10
5
0

1921
1925
1930
1935
1940
1945
1950
51

REFERENCE:
Birth
Death

The steady fall in maternal mortality is an encouragement to all those who are taking a keen interest in maternal and child health. This rate should fall still further and no efforts should be spared for getting more expectant mothers under early ante-natal care and for extending as fast as possible the midwifery service. Unfortunately, the Department cannot, under existing conditions, take more pupil midwives into the training schools, unless it blinks the fact that the rather reasonable standard now reached would quickly deteriorate.

(iv) *Infant and Child Mortality*

36.—*(a)* The infantile mortality rate was 84·5 per 1,000 as compared with 76·3 in 1950, 91·0 in 1949 and an average of 146·7 per 1,000 over the 10-year period 1940 to 1949.

(b) The deaths under five years of age were distributed as follows:—

Age	*Males*	*Females*	*Total*
Under 3 months	660	503	1,163
3 months and under 6 months ...	182	146	328
6 months and under 1 year ...	231	196	427
1 year and under 2 years ...	201	201	402
2 years and under 3 years ...	137	158	295
3 years and under 4 years ...	56	74	130
4 years and under 5 years ...	31	38	69
TOTAL	1,498	1,316	2,814

TABLE IX

Deaths from Principal Causes 1942–51—(International List, 1938 Revision)

Year	Group I	Group II	Group III	Group IV	Group V	Group VI	Group VII	Group VIII	Group IX	Group X
1942...	4,160	67	134	274	—	416	197	1,368	1,507	680
1943...	3,340	43	116	198	2	419	236	1,340	1,362	543
1944...	3,807	57	123	255	2	412	249	1,166	1,344	470
1945...	4,898	53	178	894	2	402	234	1,538	2,283	566
1946...	3,862	57	112	833	2	407	239	1,138	1,969	525
1947...	2,366	76	111	577	4	339	206	893	1,026	300
1948...	4,052	88	130	451	—	378	294	1,318	1,078	262
1949...	1,603	121	127	470	—	365	381	831	1,085	286
1950...	975	122	103	378	—	387	410	978	913	261
1951...	863	103	134	483	1	437	399	1,072	1,335	272

Group I—Infective and parasitic diseases.
II—Cancer and other tumours.
III—Rheumatism, diseases of nutrition and of endocrine glands, other general diseases and deficiency diseases.
IV—Diseases of blood and blood-forming organs.
V—Chronic poisoning and intoxication.
VI—Diseases of the nervous system and sense organs.
VII—Diseases of the circulatory system.
VIII—Diseases of the respiratory system.
IX—Diseases of the digestive system.
X—Diseases of Urinary and genital Organs

TABLE IX—*continued*

DEATHS FROM PRINCIPAL CAUSES 1942–51—CONTINUED

Year	*Group XI*	*Group XII*	*Group XIII*	*Group XIV*	*Group XV*	*Group XVI*	*Group XVII*	*Group XVIII*	*Total deaths*
1942	172	75	3	6	1,052	540	184	1,092	11,927
1943	75	74	5	4	855	512	202	1,316	10,642
1944	171	70	5	7	1,207	533	204	1,273	11,355
1945	266	85	7	5	1,427	583	239	1,617	15,277
1946	185	67	7	1	1,193	489	186	1,256	12,528
1947	106	47	3	6	1,129	381	172	938	8,680
1948	84	44	5	9	1,009	285	171	859	10,518
1949	83	23	6	5	842	226	189	741	7,384
1950	86	34	7	10	782	202	193	612	6,453
1951	78	28	8	14	793	248	197	743	7,208

GROUP XI— Diseases of pregnancy, childbirth and the puerperal state.
XII— Disease of the skin and cellular tissue.
XIII— Diseases of bones and organs of movement.
XIV— Congenital malformation.
XV— Diseases peculiar to the first year of life.
XVI— Senility, old age.
XVII— Deaths from violence.
XVIII— Ill-defined causes of death.

(c) The principal causes of death in children under five years of age were in the following categories (International list of causes of death, 1938 Revision):—

Group	*Under one year*	*One year and Under 5 years*
1. Infective and parasitic diseases	146	135
3. Rheumatism, diseases of nutrition, etc.	13	23
4. Diseases of the blood and blood-forming organs ...	15	66
6. Diseases of the nervous system and sense organs ...	48	27
8. Diseases of the respiratory system	238	145
9. Diseases of the digestive system	551	358
15. Diseases peculiar to the first year of life	793	—
17. Deaths from violence	9	21
18. Ill-defind causes of death	75	104

The total number of deaths of children under one year of age was 1,918 and of those of one year and under five years 896.

(d) The infant mortality rate is an important figure in vital statistics and its trend is therefore closely recorded and scrutinised. It is a fairly accurate index of the social circumstances, of the health conditions in an area and of the general standard of medical care provided by the health services: for this reason a graph indicating the trend of infant mortality rate in Mauritius from 1921 onwards is given at Figure IV.

Bearing the above in mind, it is clear that progress has been achieved when it is remembered that 30 years ago the infant mortality rate was 176·7 and that it was only in 1949 that the figure of 91 was attained. Since then the two-figure number has been maintained. The increase which is evident between the figures for 1950 and 1951 has no definite significance since the rate must after the sudden decrease which occurred three years ago, adjust itself in presence of improved conditions.

However pleased I am in drawing attention to a not unsatisfactory state of affairs, I must insist that there can be no room for complacency and Government Departments, Local Authorities, voluntary organizations and individuals whose solicitude lies in the field of infant welfare must increase their efforts so as to reach the lower rates now reported from other countries lying like Mauritius within the tropical belt.

I know that there is an acute shortage of midwives and nurses and that for this reason, it has not yet been possible to organize a complete district service, which, incidentally, must include health visitors. The first objective is to make up the deficiency and train bodies as fast as circumstances will permit.

(v) *Marriages*

37. The number of marriages celebrated during the year was 3,080. The marriage rate which is expressed as the number of persons married per thousand of the population was 12·7 as compared with 13·1 in 1950, 16·3 in 1949 and 14·7 in 1948.

GRAPH IV

TREND OF INFANT MORTALITY RATES IN MAURITIUS 1921-1951

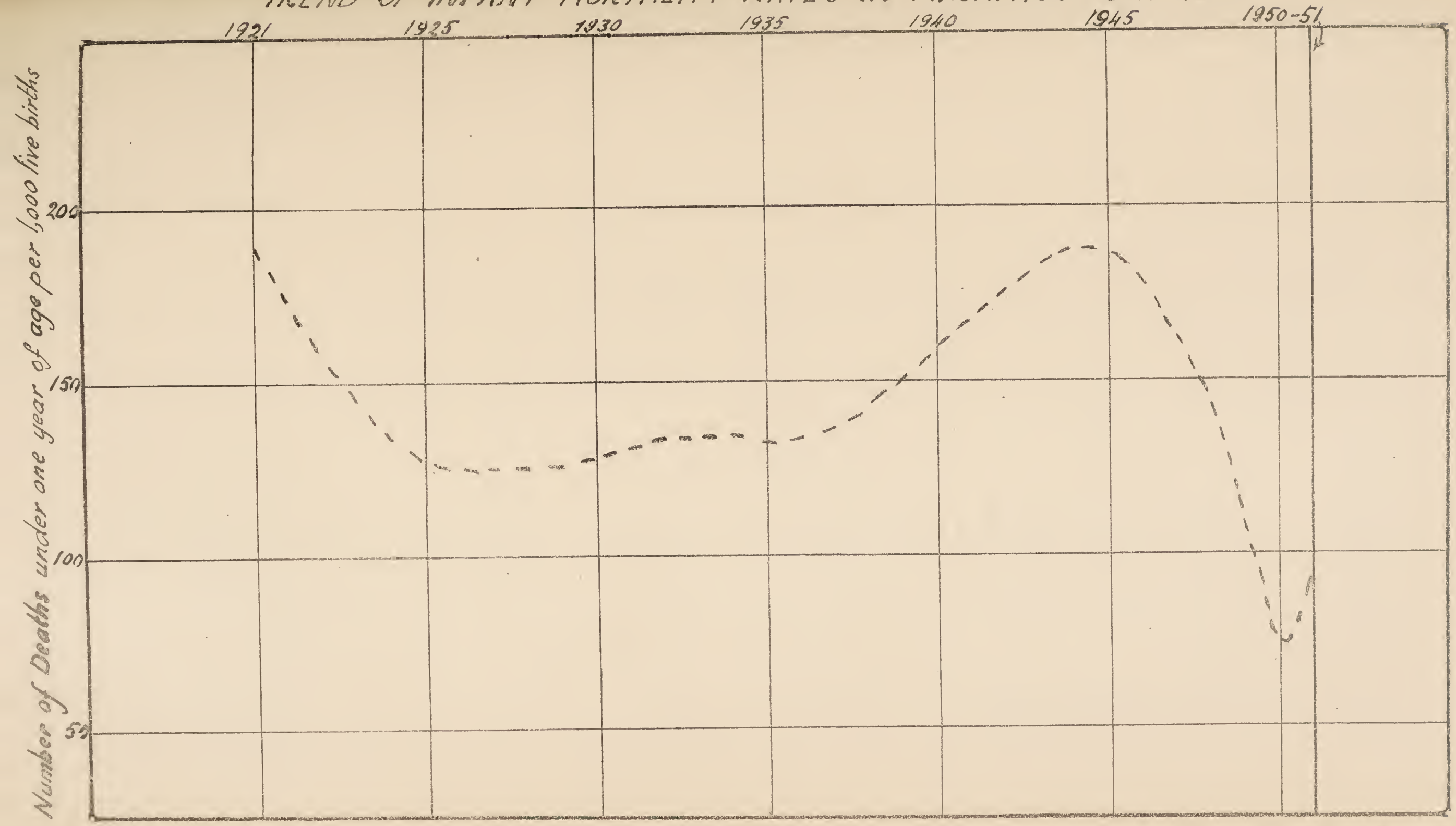


Table X shows births, still births, death rates, marriage rates and natural increase of the population and is intended to supply comparative data for the last ten years.

TABLE X

Year	Births		Still-births		Death Rates		Marriage rate ‰ population	Natural increase of population
	Live Births	Rate ‰ population	No. of still-births	Rate % total births	Infant Mortality rate	Total death rate		
1942 ...	13,553	33·2	1,305	9·6	163·4	29·2	17·4	1,626
1943 ...	13,604	33·2	991	7·3	141·6	25·9	15·0	2,962
1944 ...	18,258	43·5	1,319	7·2	141·0	27·1	13·0	6,903
1945 ...	16,290	38·5	1,484	9·1	188 0	36·1	12·0	1,013
1946 ...	16,427	38·7	1,374	8·4	145·2	29·5	18·1	3,899
1947 ...	18,926	43·8	1,277	6·7	113·9	20·1	17·5	10,246
1948 ...	19,039	43·1	1,316	6·9	186·2	23·8	14·7	8,521
1949 ...	20,472	46·0	1,364	6·7	91·0	16·6	16·3	13,088
1950 ...	23,110	49·7	1,410	6·1	76·3	13·9	13·1	16,657
1951 ...	22,968	47·5	1,401	6 1	84·5	14·9	12·7	15,760

II. Public Health

(1) Communicable and Infectious Diseases

39. *Malaria and anti-malarial measures.* During the past few years, two important results have been achieved: *Anopheles funestus,* a vector of considerable importance in Mauritius has apparently disappeared and the disease malaria has been reduced to negligible proportions.

The disease, as shown by figures given in this report, has ceased to be an economic problem to the island.

Malaria, which up to 1945, occupied the first place among causes of mortality is now among the very minor causes. The change in position has been dramatic. The deaths ascribed to the disease per 1,000 living from 1945 to 1951 were as shown in Table XI.

TABLE XI

Year	Deaths ascribed to malaria	Rate per 1,000 population	Percentage of deaths due to malaria to total deaths
1945 ...	3,534	8·34	23·13
1946 ...	2,918	6 88	23 29
1947 ...	1,782	4·12	20·53
1948 ...	1,580	3·58	15·02
1949 ...	936	2·11	12 68
1950 ...	388	0·83	6 01
1951 ...	285	0·59	3·95

40. Malaria is not yet officially a notifiable disease, but all cases attending hospitals and dispensaries and which are reasonably suspected of being suffering from the disease are reported to the Malaria Division. The following gives an indication of the improvement in cases reported during the past three years:—

	1949	1950	1951
No. of cases reported from Hospitals and dispensaries	23,746	6,021	1,255

Further, blood slides were as in the previous year, taken from those patients due to be reported as malaria. It must be pointed out that the slides were taken before any treatment had been administered.

During 1951, 827 blood slides were taken, representing a significant sample of 66 per cent of the total cases reported. Of these, only 47, or 5·7 per cent were found to be positive. Also, only 6 of these cases were shown to be gametocyte carriers and 14 were very scanty infections. It appears from the above, that many reported cases were not in fact malaria, but represented some other type of pyrexia.

41. I should like to draw special attention to the district of Flacq on the east coast which originally was an area (in common with Black River district on the west coast) in which malaria presented a serious public health and economic problem. In this district, no other anti-malarial work of any sort was carried out before residual spraying of houses and domestic animal harbourages began in January 1949 and it is therefore an ideal district for assessment of results.

The following figures which represent the number of malaria cases reported from the hospital and dispensaries of the district to the Malaria Division indicate clearly the striking improvement which has taken place:—

	1949	*1950*	*1951*
No. of cases reported	4,282	655	12

42. In Mauritius, hospital figures are among the most accurate that can be quoted in connection with malaria, since the patients are under the constant care of a medical officer and laboratory facilities are available.

Table XII indicates the number of cases of malaria treated in hospitals for the 10-year period 1942–51 ; while the graph at Figure V demonstrates the reduction in hospital admissions due to malaria since 1942.

TABLE XII

Year	*Cases of malaria treated in hospital*	*Deaths in hospital*	*Case Mortality %*
1942 ...	5,014	110	2·19
1943 ...	3,215	81	2·52
1944 ...	3,512	104	2·96
1945 ...	3,244	148	4·57
1946 ...	2,522	106	4·20
1947 ...	1,989	76	3·82
1948 ...	1,576	66	4·19
1949 ...	804	43	5·35
1950 ...	209	10	4·78
1951 ...	98	4	4·08

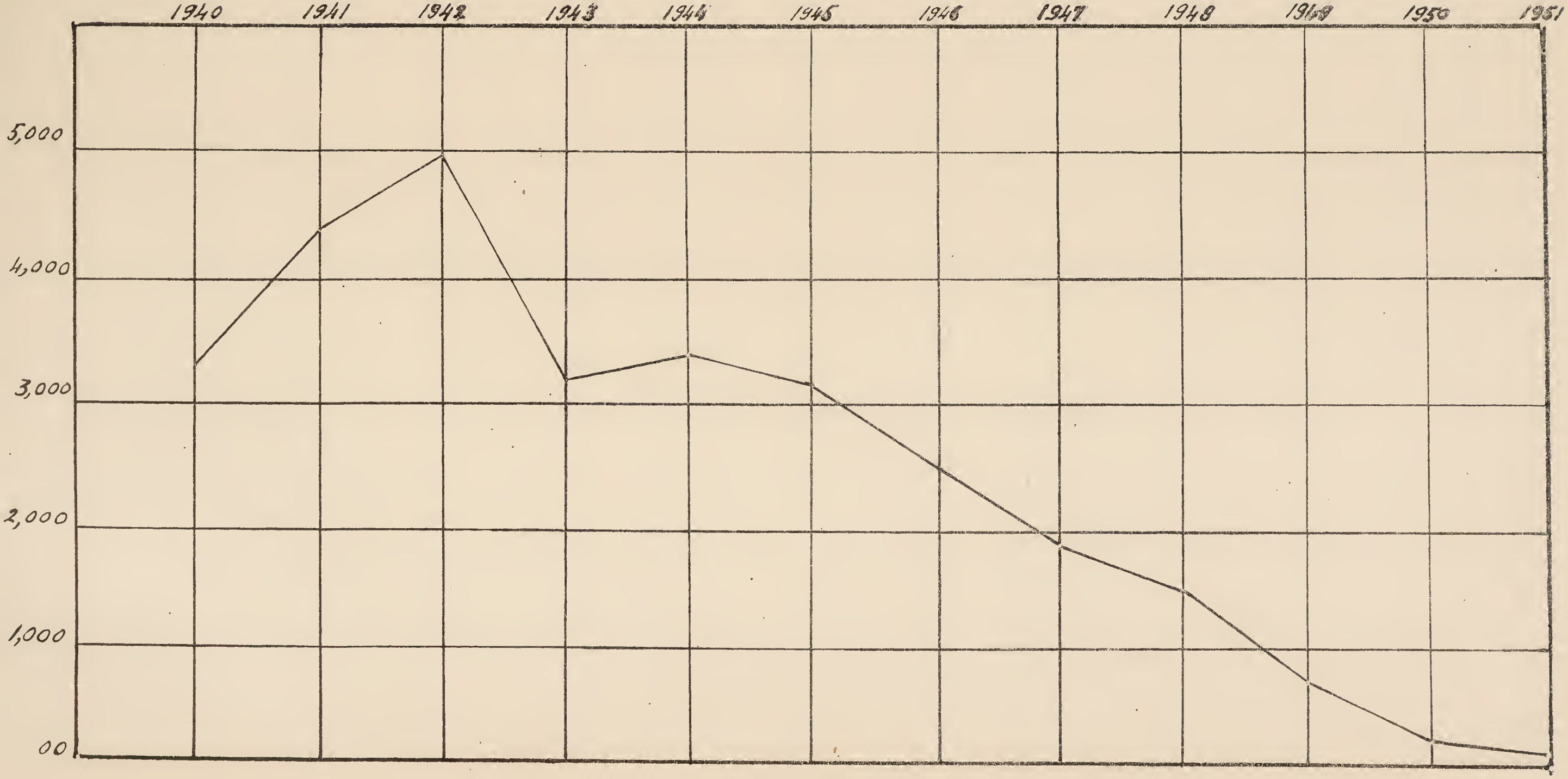
43. The information which appears in this paragraph and in the four following ones is abstracted from the report of the Officer in charge, Malaria Eradication (Insecticides) Scheme.

The full-scale, routine spraying of the coastal zone began in August, and with a smaller staff than previously. Once again, the barrier technique of fringe-spraying was employed in the areas of population concentration. This method has been shown, in Mauritius and elsewhere, to give adequate protection to the inhabitants ,and the reduction in the number of houses treated causes a considerable saving in the cost of the spraying scheme.

A TEAM PROCEEDING TO SPRAY A HUT WITH RESIDUAL INSECTICIDES

GRAPH V

ADMISSION TO HOSPITAL - MALARIA - 1940-1951



The following shows the details of spraying during 1951:—

No. of houses sprayed	*No. of rooms sprayed*	*No. of gallons of solution used*	*Rooms per gallon solution*
41,878	174,266	59,921	2·91

44. A fourth spleen and parasite survey was carried out during the peak season of 1951 and altogether 17,294 children of all ages were examined. The rates were everywhere of a low order. It is considered that, when the spleen rate falls as low as 2 per cent, it is of little value in estimating the malaria incidence. It is probable that many of these children with palpable spleens were suffering from mild malnutrition and would have presented this sign even in the absence of malaria transmission. The remainder were likely to have been children with previous gross splenomegaly which takes several years to resolve. In view of the evidence given by the Infant Survey of the lack of malaria transmission in most areas of the island, it is improbable that the enlarged spleens found in the course of the survey were caused by fresh attacks of the disease.

Table XIII shows the total figures for the four spleen and parasite surveys between 1948 and 1951 and Table XIV is a comparison of the parasite rates in age groups as demonstrated in the four surveys:—

TABLE XIII

SPLEEN AND PARASITE SURVEYS 1948–51

Survey	*No. of children examined*	*Spleen rate per cent*	*Parasite rate per cent*
I — 1948	3,585	34·8	9·5
II — 1949	12,105	15·3	2·4
III — 1950	14,526	2·8	0·36
IV — 1951	17,294	2·0	0·14

TABLE XIV

PARASITE RATES PER CENT IN AGE GROUPS

Age group	*Survey I 1948*	*Survey II 1949*	*Survey III 1950*	*Survey IV 1951*
0— 1...	8·36	3·62	1·01	—
2— 5...	9·54	4·84	0·78	0·62
6—10...	10·05	1·96	0·25	0·25
11 and over	7·39	1·41	0·07	0·03

Table XIV illustrates a very interesting point. If the parasite rates in age groups are studied in the last two columns, Surveys III and IV, it can be seen that the rates in the groups over two years of age have not altered to any significant extent. In the group under two years of age, which in 1951 represented children born since residual spraying began, the parasite index has diminished from 1·01 per cent to nil. This is evidence that fresh transmission of malaria has virtually ceased.

45. The continuous Infant Survey has provided very valuable information about transmission in the coastal zone of the island, where malaria was always very bad. More than 30,000 children, born since the first spraying of their locality had been completed, were examined. A general table follows, giving a comparison of the four surveys:—

TABLE XV

INFANT SURVEY

Survey	*No. of children examined*	*No. of positive blood slides*	*Parasite Rate %*
I	2,612	7	0·27
II	5,744	14	0 24
III	10,493	8	0·08
IV	12,193	5	0·04
TOTAL all SURVEYS	31,042	34	0·11

The positives appearing opposite the fourth survey were found in Black River, which means that no transmission of malaria has taken place anywhere except in Black River. It should be remembered that Black River, on the hot, south-west coast was originally the most serious district for malaria. It was also the last stronghold of *A. funestus*. It is not therefore surprising to find that it is being the last district to be freed from malaria transmission.

46. Mr. J. O. Harper was seconded from the Government of Kenya for the purpose of conducting research into the behaviour of *A. gambiae* in Mauritius and arrived in April, 1951.

A brief description of the progress of research instituted by him is given hereunder:—

(i) *Mosquito Colonies.* Attempts to set up a colony of *A. gambiae* proved unsuccessful, but in view of the large numbers of larvae obtainable from Black River, a sufficiency of adults could always be maintained for biological tests. It was also difficult to breed *Ae. aegypti* in the laboratory, although *Ae. albopictus* and *C. fatigans* were not similarly affected. This fact has been previously noted by Macgregor (Mosquito Surveys, Wellcome Bureau of Scientific Research, London 1927) who also pointed out that *Ae. aegypti* was confined in Mauritius within very narrow limits in spite of the fact that conditions in the whole island were apparently ideally suited to the widespread breeding of this species.

(ii) *Mosquito dissections.* 116 *A. gambiae* and 257 *A. constani* adult females collected from cowsheds during night catches were dissected and examined for sporozoites with negative results. It is of interest to note that of 308 *C. fatigans* collected from houses in the course of night work, 41 or 13·3 per cent were found to be infected with developmental stages of *W. bancrofti.* Many *A. gambiae* have since been found similarly infected. In certain regions of the island, microfilariae have been found in the blood of a large proportion of patients examined during routine surveys. In these cases, blood slides were taken during the evening when the majority of inhabitants may be found in their houses.

(iii) *Life cycle.* The egg-adult life cycle was found to vary between 21 days in the winter months and 8 days in December with *A. gambiae*. Corresponding figures for *A. constani* showed a variation between 48 and 12 days.

(iv) *Daytime adult catches.* These catches were carried out close to known breeding-places, and the general impression obtained was that *A. gambiae* could not be found to any extent in houses during the day time (0.04 *A. gambiae* per house flitted). In cowsheds, however, an appreciable number of adults of this species were found (2·1 *A. gambiae* per cowshed). All these catches were made in order to locate suitable places for the night catches.

(v) *Night catches.* From May until the end of August, negative results were obtained for *A. gambiae* in houses. This period represents the cold months in Mauritius, when breeding is at a very low ebb. From September onwards, however, an increasing number of adults were found in houses and cowsheds, catches being almost entirely confined to the district of Black River. The method used was an hourly, fifteen-minute search during the night, from 7 p.m. until dawn, and the results showed an accentuation of those figures obtained from daytime flitting (0·6 *A gambiae* per house and 7·4 per cowshed). These indices have continued to rise during catches in the summer months of January—March. An interesting fact which was revealed during these night catches was that *A. gambiae* adults were entering the unsprayed lorry, in which the staff rested between catches, in far greater numbers than were found in the houses. This suggests that some of the spread of *A. gambiae* away from the coast during the early summer takes place by means of sugar estate and other transport.

(vi) *Outside resting places.* A systematic search was carried out in the neighbourhood of breeding places for outside resting places in which adult mosquitoes were sheltering during the day time. In one area, 304 adult *A. gambiae* were discovered resting in crevices in the scrub and debris cleared by bulldozers on the fringe of a canefield. Of these, 112 were females, but only 3 proved to be blood-fed. In a further attempt to study the resting habits of this mosquito, small kegs, 18 inches long and 12 inches in diameter with an inside lining of black cloth, were placed in various sheltered situations in the vicinity of breeding places. Satisfactory catches were obtained of sheltering *A. gambiae,* with a higher percentage of blood-fed females. Out of 38 females, in fact, 17 were blood-fed and 15 were gravid. Stomach smears were taken from all the blood-fed specimens obtained so that precipitin tests could be carried out at a later date.

(vii) *Salt water breeding. A. gambiae* larvae, were found breeding in brackish water with the high salt content of 25 grms. NaCl per litre (sea water in this region contains 32 grms. NaCl per litre). In the laboratory, these larvae pupated and adult mosquitoes emerged, many of which were the four-banded palp variety.

47. In an attempt to estimate the importance of ships in the introduction of anophelines, a small team was appointed to flit crew's quarters and other likely sheltering places immediately after the docking of ships in Port Louis. The tonnage of ships varied between 176 and 14,281 tons and the following gives the relevant figures:—

No. of ships examined	*No. of rooms flitted*	*No. of ships positive*	*No. of Culex found*
46	1,023	3	14

No anophelines have been discovered yet, but the survey has been in existence for too short a period for the results to be of any value. A further year's investigation may yield some more valuable results.

48. During the year under review, the entomological branch of the Department continued its activities and a detailed account of the findings is given in the Entomologist's report in Appendix IV.

49. The programme of permanent works continued to be followed in the districts of Port Louis, Pamplemousses, Plaines Wilhems and Moka and hereunder is a summary of the principal items which were attended to during the year:—

PORT LOUIS:—

Roche Bois Match Factory Drain—completed on 2,000 ft.
Fortification Drain—concreted on the lower part.
Hussard Drain—concreted on the lower part.
Terre Rouge River—canalised and concreted on a length of 2,500 ft.
Ruisseau du Pouce—removal of 6,000 cu. ft. of sediment.

PAMPLEMOUSSES:—

Marshy beds in the centre of the village have been drained.
Powder Mills—Main and side drains completed.
Mon Gout—Regrading and canalization done in connection with the drainage of marshes on whole course of the rivulet.
St. Louis Stream—Unblocking, digging and canalization done on part of it

At L'Esperance and the Botanical Garden about 2 acres of marshes have been filled

PLAINES WILHEMS:—

La Louise Collector—canalization in progress.
Forest Side Marshes—nearly completed.
Curepipe Road—marshy land completely drained.
Le Bosquet—bottom concreted on part of the length of the drain.
La Chaumiere—concrete bridge erected over malaria drain.

MOKA:—

Agrement and Chaillet—works in progress.
Balmano—regrading and unblocking.
Reduit Canal—all joints cemented.
Bonham Canal—all joints cemented.
Verdun and La Dagotière—Unblocking, digging and canalization done.

So far about Rs. 4,000,000 have been spent on permanent works which afford protection to over 200,000 souls. In the course of the campaign about 300 acres of marshes have been reclaimed ; the land so reclaimed is now worth an average of Rs. 3,000 per acre or a total of Rs. 900,000. The yearly cost of maintenance of the works completed is less than 5 per cent of the capital expenditure.

50. The Malaria Advisory Board of which the Director of Medical Services is the Chairman met on seven occasions.

LATANIERS STREAM, PORT LOUIS, BEFORE PERMANENT ANTI-MALARIAL WORKS WERE STARTED

51. *Enteric fever.* The cases of this disease notified in the year 1951 numbered 326, equivalent to an incidence rate of 0·67 per 1,000 of the population as compared with 319 cases in 1950.

The number of deaths amongst these 326 cases was 52 giving a case mortality of 15·95 per cent as compared with 51 and 15·98 per cent the previous year.

The incidence of this disease per 1,000 of the population and the case mortality for the past five years were:—

Year	*No. of cases notified*	*Rate per 1,000 of the population*	*Case mortality per cent*
1946...	627	1·478	17·86
1947...	405	0·936	21 48
1948...	371	0·839	23·18
1949...	316	0·711	16·77
1950...	319	0·686	15·98

Large stocks of chloramphenicol are held by the Department. Results obtained with that drug are good when cases come up for treatment early enough. Unfortunately, may cases first report to a medical officer a long time after the onset of the disease and in such cases response to the drug is poor.

52. *Diphtheria.* The cases of this disease notified in the year numbered 88, equivalent to an incidence rate of 0·18 per 1,000 of the population.

The number of deaths among the 88 cases was 17 giving a case mortality of 19·31 per cent.

The following figures indicate the number of cases of diphtheria notified, the incidence rate and the case mortality for the past five years:—

Year	*No. of cases notified*	*Incidence rate per 1,000 population*	*Case mortality per 100*
1946... ...	56	0·132	8·93
1947... ...	85	0 196	8·23
1948... ...	163	0 369	17·79
1949... ...	154	0·346	14.28
1950... ...	96	0·206	9·37

53. *Filariasis.* 69 cases were treated in hospitals and 76 in dispensaries.

54. *Small-pox.* Vaccinations performed were 16,257.

Successful vaccinations on first attendance	15,574
do. do. second and subsequent attendances...	430
	16,004
Unsuccessful vaccinations	242
Not observed	11
	16,257

70·78 per cent of the children born were vaccinated by medical officers of the Department and the above figures do not include infants vaccinated by the private practitioners.

55. *Erysipelas.* There were 7 cases. No death due to that disease was recorded during the year.

56. *Tuberculosis.* This disease is notifiable since 1949. On the other hand, compulsory medical certification of death is applicable since the same year to the entire districts of Port Louis, Moka and Plaines Wilhems, the population of which amounts to 51 per cent of the total population of the Colony. The two aforementioned measures have provided a certain amount of precise information in regard to tuberculosis.

For 1951, 481 cases of tuberculosis were notified as compared with 802 for 1950.

In 1951, 235 deaths were attributed to tuberculosis: 225 of the respiratory system, 6 of the meninges and central nervous system, 1 of the intestines and peritoneum, 1 of the vertebral column and 2 of other forms. In 1950, there were 244 deaths: respiratory system 236, meninges and central nervous system 6, intestines and peritoneum 2.

The following indicates the deaths per 100,000 of the population from tuberculosis of the respiratory system for the 10-year period 1942–51:—

Year		*Death per 100,000 of the population*
1942	...	47·06
1943	...	51·67
1944	...	51·49
1945	...	55·24
1946	...	45·49
1947	...	38·39
1948	...	60·20
1949	...	65·24
1950	...	50·78
1951	...	49·

57. In the annual report for 1950 reference was made to arrangements for tuberculin testing and B.C.G. vaccination of selected groups in the community. The B.C.G. vaccination campaign was started on the 1st May, 1951, the freeze dried vaccine being obtained from the Pasteur Institute of Paris.

The first two months were entirely devoted to organisation and propaganda. The population was approached through various channels and means. His Excellency the Governor inaugurated the campaign by adressing a meeting of the Village Councils in Savane which was chosen to be the first rural district to be dealt with. The Director of Medical Services gave a series of talks on the Mauritius Broadcasting Service, thus addressing the whole population and the Press was most helpful. Clergy, welfare institutions, and various official and semi-official organisations were approached and their co-operation secured. Owing to these steps the response from the population was very good.

The first groups to be tested and vaccinated were those which either work in close connection with tuberculosis patients, i.e., hospital staff, or those living and or working closely together, i.e., prisoners, members of the police force and the like.

Army recruits were tested and vaccinated before being stationed overseas (their re-test will be made in the Middle East where they are posted at present). The Army Authorities were very co-operative and the Director of Medical Services East Africa Command, at the time of his visit to the Colony, expressed his interest in B.C.G. vaccination and has arranged for the necessary follow-up of Mauritian Army personnel.

In September, 1951, after the winter vacation, work was started at the schools and the response from the parents was remarkably good. Vaccination having started on a voluntary basis, the percentage of consents, of course, varies according to the type of school. So far it can be said that about 80 per cent of children in primary government schools have agreed to their children being tested and vaccinated. It should be pointed out that the response in secondary schools both government and private was much lower than the percentage quoted above.

Contacts of notified cases of tuberculosis were also tested and vaccinated either on demand of the doctor in charge or at their own request.

Jelly patch was invariably used for the test and re-test. It was made strictly in accordance with the recommendations laid down in the Colonial Office memorandum. The use of sand paper for the preparation of the skin did not produce any undesired effects as reported from other countries. At the beginning of the campaign, tests were read after 72 hours ; but it seemed advisable to read the reaction after 96 hours and this has become the routine.

The vaccination was made by scarification method with Freeze Dried vaccine until the middle of November 1951, when Lyophilised vaccine was used by the intradermal method for the first time. The intradermal method was found to be the easier way, especially when dealing with a great number of children at a time. Furthermore,the conversion rate after Freeze Dried vaccine by scarification method was found to be much lower than comparative figures from other countries show. It was thought that this failure might partly or mostly be due to faulty technique, but careful analysis has shown that the conversion rate in adults was satisfactory whereas it was very low in children. By the end of the year no re-test had yet been made on persons who were vaccinated by the intradermal method. On the whole, the number of re-tests made is yet too small to come to any conclusions.

The following shows the results obtained from July 1951 to December 1951:—

Tests made	8,240			
Tests read	7,568			
Negative reactions	5,912	i.e.	78%	
Negative reactions, age group 0—14 ...	4,983	i.e.	84·29%	
Negative reactions, age group above 14 ...	929	i.e.	15·71%	
Vaccinations	4,908	i.e.	83·02%	of all non-reactors.
Vaccinations age group 0—14	4,089	i.e.	82·06%	of all non-reactors.
Vaccinations do. above 14	819	i.e.	88·16%	of all non-reactors.

The comparatively high figure of 17 per cent absentees of non-reactors for vaccination is explained by the fact that children in primary schools attend school irregularly on Mondays and Fridays. At the beginning of the Campaign, reading of reaction and vaccination were made on different days.

Since the intradermal method has been adopted, the non-reactors are vaccinated at the time of the reading of the test so that there will not be any absentees in the future.

The following supplements the information given above:—

Vaccination with Freeze Dried vaccine by scarification method ...	3,221	
Vaccination with Lyophilised vaccine by intradermal method ...	1,687	
Re--tests made	603	
Re—tests read	527	
Conversion of reaction	228	i.e. 43·26%
Conversion of reaction age group 0—14	59	
Conversion of reaction, age group above 14... ...	169	

Only persons vaccinated with Freeze Dried vaccine by the scarification method were re-tested so far.

With the increased staff, now consisting of one medical officer, one secretary, one nurse and two dressers, it is now possible to work at the rate of 5,000 to 6,000 tests and 2,000 to 3,000 vaccinations per month. It is therefore hoped that all school children and contacts in Plaines Wilhems and Savanne will be tested and vaccinated during the early months of 1952.

58. The medical officer who had been selected for training in the subject of tuberculosis left Mauritius in April 1951 and he is now in Cardiff following the T.D.D. course.

59. *Leprosy.* The medical officer in charge of the Leper Hospital reports as follows:—

	Males	*Females*	*Total*
(a) No. of patients on 1st January 1951	33	15	48
No. of patients admitted during the year ...	6	3	9
Patients returned from leave	1	0	1
Patients discharged in 1951	3	1	4
Patient died	1	0	1
Patients remaining on 31.12.51	35	17	52

(b) Admissions. There were six male admissions, of which four came from Rodrigues and two from Mauritius. Of these 4 were lepromatous in type and two neural in type.

Three female patients came from Rodrigues, of whom two are lepromatous and one neural in type.

One male patient admitted during 1951 went on leave and then returned towards the end of the year.

(c) Discharges. Three male patients and one female patient were discharged. Of these two men and one woman were of lepromatous type and one man of neural type. Two men and one woman returned to Rodrigues and one man is employed as male servant at the hospital.

(d) Death. One man died of hepatitis.

(e) Treatment. Thirty three patients are receiving sulphone treatment. Of these twenty six receive sulphetrone and seven who were intolerant to sulphetrone receive avlosulfone.

Two female patients showing mental unbalance were treated by Electro Convulsion therapy at the Mental Hospital twice a week. One of them improved so well that treatment has now been stopped. The other receives treatment only once a week.

(f) Comparative distribution of patients at Leper Hospital :—

Males Patients	*Neural Type*	
	1951	*1950*
Mild	2	2
Moderate...	3	3
Advanced	12	12
	17	17

	Lepromatous Type	
	1951	*1950*
Mild	3	3
Moderate	5	4
Advanced	7	5
Cured but blind... ...	1	1
Apparently cured ...	2	3
	18	16

Female Patients	*Neural Type*	
	1951	*1950*
Mild	1	1
Moderate	2	1
Advanced	3	3
	6	5

	Lepromatous Type	
	1951	*1950*
Mild	4	3
Moderate	4	3
Advanced	—	—
Cured but blind... ...	—	—
Apparently cured ...	3	4
	11	10

(g) The country of origin of the patients under treatment is as follows:—

	Mauritius	*Rodrigues*	*Oil Islands*	*India*	*China*	*Total*
Male	17	14	1	2	1	35
Female	3	13	1	—	—	17

60. *Venereal Diseases.* 227 cases of admission for syphilis and 7 deaths were recorded from the hospitals during the year. 50 cases of gonococcal infection were treated. At the dispensaries, 680 cases of syphilis and 243 cases of gonoccal infection were treated during the year under review.

61. *Ankylostomiasis.* 589 cases were treated in hospitals and 6,123 in the dispensaries.

62. *Schistosomiasis.* During the year, 83 cases were treated in hospitals and 440 at the dispensaries.

63. Figure VI shows the proportion in percentages of diseases treated in hospital to total cases treated, according to the sections of the International Classification of Diseases, 1948, whilst figure VII shows the proportion in percentages of certain infective and parasitic diseases treated in hospital to total cases of infective and parasitic diseases treated. Table XVI indicates the number of cases of the main notifiable diseases by districts for the year 1951, and Table XVII the monthly notifications of the same diseases.

(2) Nutrition and Nutritional Diseases

64. In the absence of a Nutrition Officer who had not yet been appointed, work continued during the first part of the year under the Assistant Nutrition Officer on the simple lines outlined in the previous year's report. The Village Health Workers assisted some of the Medical Officers on their consulting days and helped in the various activities of Social Welfare Centres ; they continued home visiting—a work of vital importance—and provided advice on nutrition and mothercraft.

Two of them helped in the running of the experimental day-nursery established at Camp Diable Village. During that same period, the Assistant Nutrition Officer advised those responsible for the management of orphanages and poor houses and kept under regular supervision the diet at the Beau Bassin Prisons.

65. It is unfortunate that when the Departmental Estimates came up for consideration before Council in June, a majority of the members decided to vote for the abolition of the post of Nutrition Officer, albeit the statements made by the official spokesmen regarding the importance which was attached to the maintenance of a Nutrition Service. Since then, the work has come to a standstill and the Assistant Nutrition Officer has been seconded to the Education Department where she helps in the supervision of the Milk Distribution Scheme.

66. The following nutritional diseases were recorded during the year:—

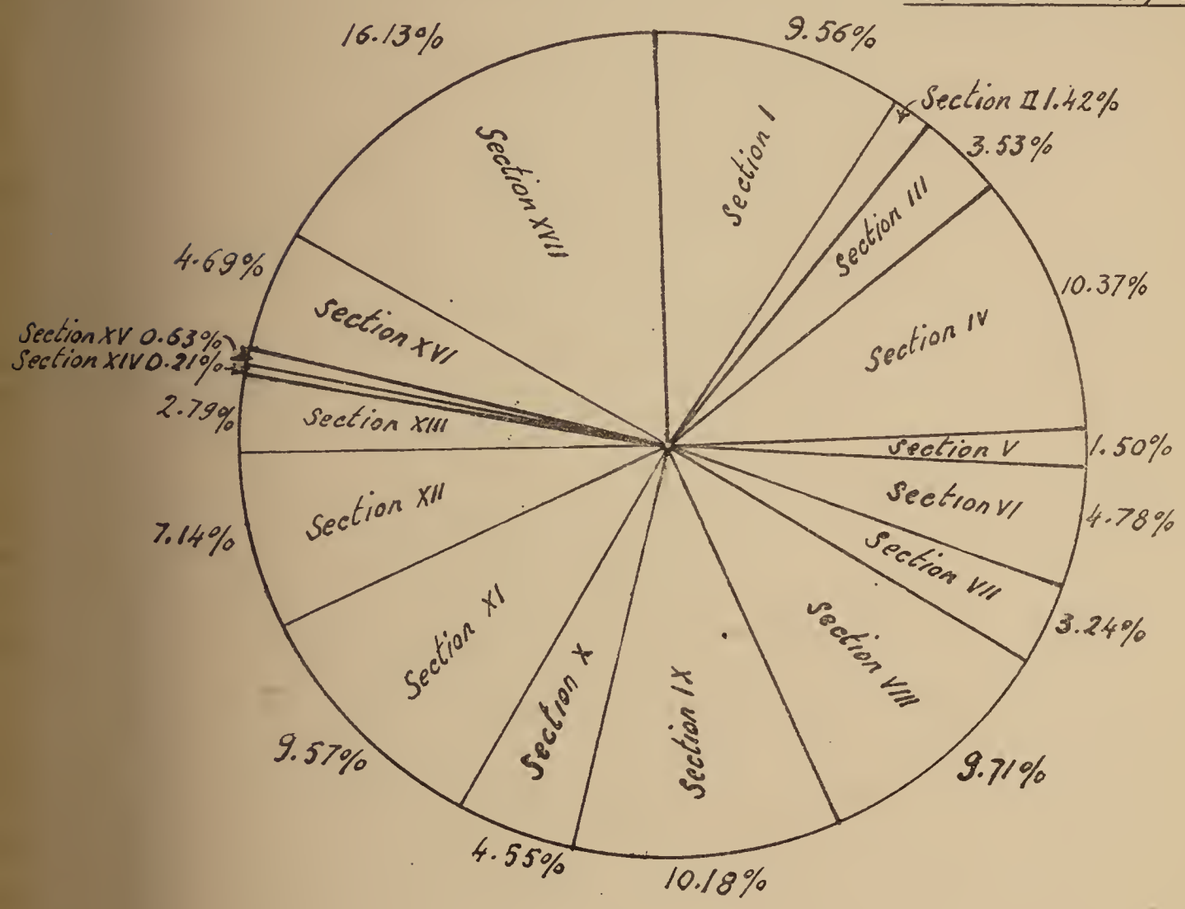
Diseases	*In Hospital*	*At Static Dispensaries*	*At Mobile Dispensaries*
Beriberi	5	1	—
Pellagra	23	31	3
Scurvy	4	11	—
Other deficiency states ...	258	2,872	1,642
Total	290	2,915	1,645

GRAPH VI

YEAR 1951

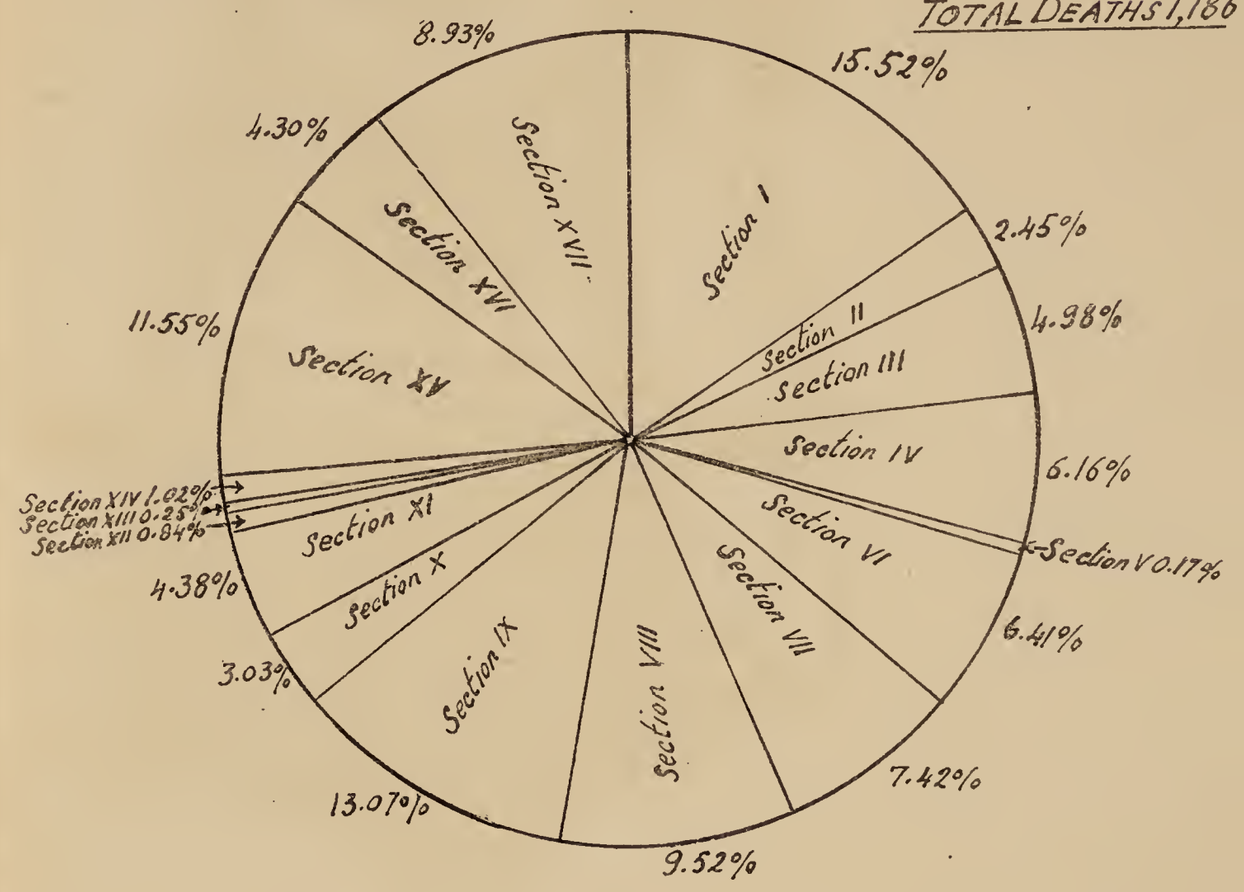
Proportion in percentages of diseases treated in hospital, by Sections of the INTERNATIONAL STATISTICAL CLASSIFICATION of diseases, 1948, total cases treated in hospital.

TOTAL CASES 29,039



Proportion in percentages of deaths in hospital, by Sections of the INTERNATIONAL STATISTICAL CLASSIFICATION to total deaths in hospital.

TOTAL DEATHS 1,186



REFERENCE

Section I. Infective and parasitic diseases.
Section II. Neoplasms.
Section III. Allergic, Endocrine system, Metabolic & Nutritional Diseases.
Section IV. Diseases of the blood and blood forming organs.
Section V. Mental, Psychoneurotic and personality disorders.
Section VI. Diseases of the Nervous System and Sense organs.
Section VII. Diseases of the Circulatory System.
Section VIII. Diseases of the Respiratory System.
Section IX. Diseases of the Digestive System.
Section X. Diseases of the Genito. Urinary System.
Section XI. Deliveries and Complications of Pregnancy, Childbirth and the Puerperium.
Section XII. Diseases of the Skin and Cellular tissue.
Section XIII. Diseases of the Bones and Organs of movement.
Section XIV. Congenital malformations.
Section XV. Certain Diseases of early infancy.
Section XVI. Symptoms, Senility and ill-defined conditions.
Section XVII. Accidents, Poisonings and Violence.

YEAR 1951

GRAPH VII.

Proportion in percentages of certain infective and parasitic diseases treated in hospital to total cases of infective and parasitic diseases treated. (Section I of INTERNATIONAL STATISTICAL CLASSIFICATION of diseases, injuries and causes of death, 1948).

Proportion in percentages of deaths in hospital due to certain infective and parasitic diseases to total deaths in hospital due to infective and parasitic diseases

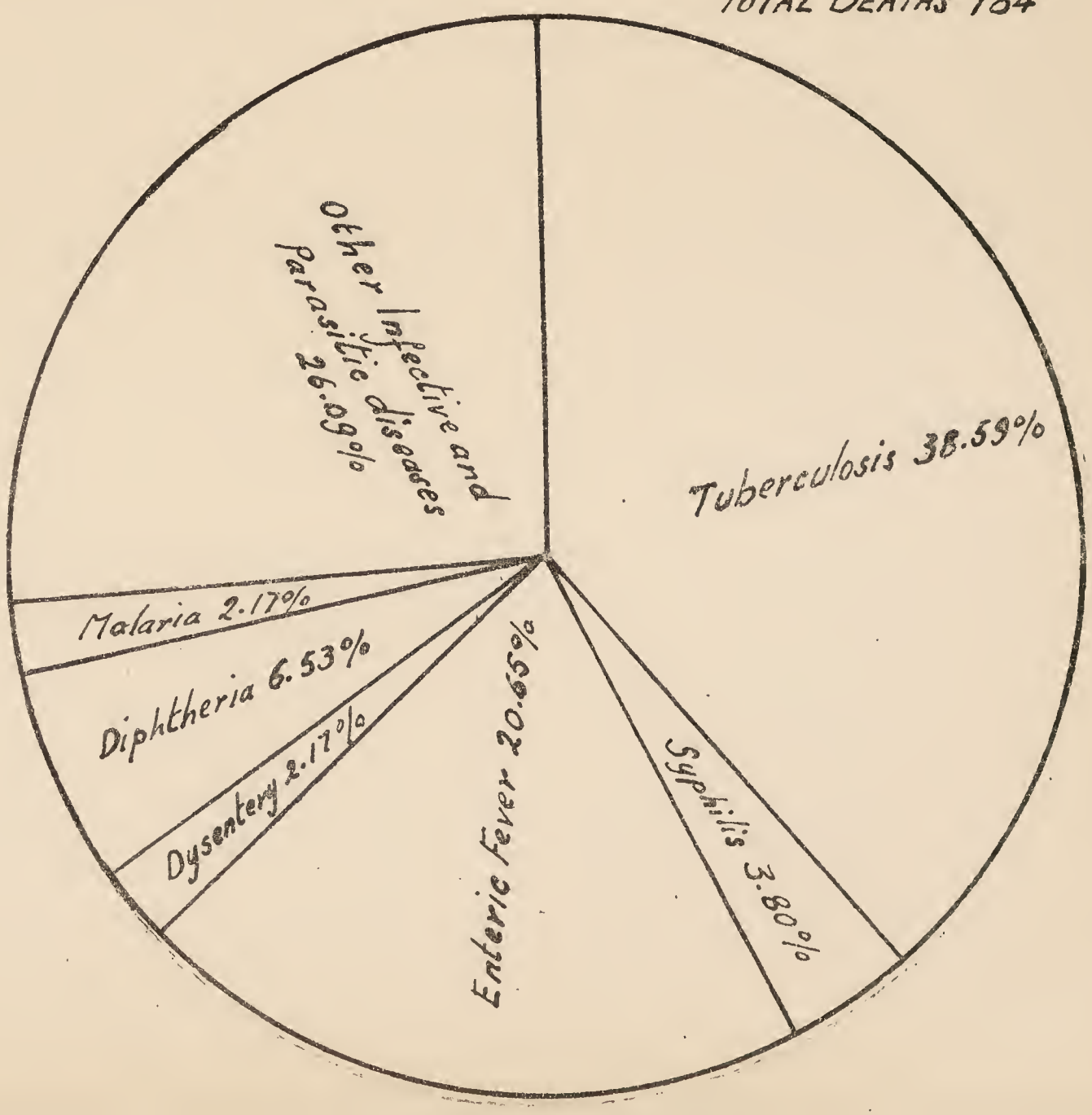


TABLE XVI

Notifiable contagious and infectious diseases—Calendar year 1951:—

District	*Typhoid Fever*	*Puerperal Fever*	*Diphtheria*	*Erysipelas*	*Polio-myelitis*	*Tuber-culosis*	*Le-prosy*
Port Louis	79	1	10	1	3	104	—
Pamplemousses ...	42	2	8	—	—	50	—
Rivière du Rempart ...	47	1	8	2	2	27	—
Flacq	39	—	9	—	3	64	—
Grand Port	21	—	1	—	5	44	—
Savanne	20	—	4	1	3	48	—
Plaines Wilhems ...	59	—	41	2	6	113	1
Black River	8	1	3	—	—	11	—
Moka	11	1	4	1	0	20	—
TOTALS ...	326	6	88	7	22	481	1

TABLE XVII

Monthly notifications of contagious and infectious diseases during 1951.

	Typhoid Fever	*Puerperal Fever*	*Diphtheria*	*Erysipelas*	*Polio-myelitis*	*Tuber-culosis*	*Le-prosy*
January	28	—	1	1	—	47	—
February	45	3	4	—	2	40	1
March	51	1	8	1	6	60	—
April	33	—	6	—	2	48	—
May	26	1	12	—	0	31	—
June	22	—	16	1	0	54	—
July	11	—	5	—	0	35	—
August	25	1	13	1	0	39	—
September	13	—	4	—	0	38	—
October	17	—	4	—	4	30	—
November	23	—	9	3	0	24	—
December	32	—	6	—	8	35	—
TOTALS	326	6	88	7	22	481	1

3. Food in Relation to Health and Disease

67.—*(a)* A major step forward was the passing by Legislative Council of an Ordinance to regulate Trades and Industries which will become operative as soon as the regulations framed thereunder are approved. Under the Ordinance, trades and industries affecting public health are required to be licensed yearly and precautions have been taken so that when a building can be made sanitary under the guidance of the officer of the Health Department making recommendations of licensing, the dirty habits of owner and employees will not render premises and equipment ineffectual.

As the licensing of food premises is a completely new departure, the Ordinance is in the first instance applicable to the Municipal area of Port Louis and the Townships of Plaines Wilhems district. It is proposed that when order has been established in these more densely populated areas, the provisions of the Ordinance shall be progressively extended to the other parts of the Colony. It is realised, though, that legislation is not the sole remedy. Health education is proceeding satisfactorily, and the work of the Department will be facilitated once members of the public understand that they must refuse to patronise insanitary shops.

(b) Food Supplies. On the whole, the foodstuffs offered to the public are of good quality. The activities of the food inspectorate were very commendable in spite of difficulties of control, especially in the rural areas. Particular attention is paid to the sale of milk, the adulteration of which continues to be extremely common in spite of repeated presecutions, heavy fines and even imprisonment. In 1951, there were 348 successful prosecutions ; fines imposed amounted to Rs. 25,165 and imprisonment reached the total of 56 months, 40 weeks and 127 days as indicated in Table XVIII.

TABLE XVIII

District or Section	*No. of prosecutions*	*Sentence*			
		Imprisonment			*Fines Rs.*
		Months	*Weeks*	*Days*	
Port Louis District	103	39	11	37	12,395
Pamplemousses District	31	—	—	—	1,930
Rivière du Rempart District... ...	16	—	—	—	715
Flacq North Section	11	—	—	—	565
Flacq South Seciton	4	—	—	—	265
Mahebourg Section	21	2	—	—	515
Rose Belle Section	14	—	—	15	1,355
Savanne District	26	1	6	30	1,930
Curepipe Section	33	12	3	45	1,100
Vacoas Section	23	1	12	—	1,140
Rose Hill Section	24	1	—	—	1,120
Black River District	28	—	6	—	1,380
Moka District	14	—	2	—	755
TOTAL	348	56	40	127	25,165

Unfortunately, the food situation is not very satisfactory: the cost of foodstuffs in general has been on the upward trend and shortages are occurring. Meat is still under control and is not freely available ; animal fats are in short supply and expensive ; fish, in greater demand than in pre-war days, is not easily procurable ; aggs, often difficult to get, became very scarce following the epizootic disease that caused havoc among poultry at the end of the year ; while green vegetables are not as plentiful as before. As a result of the higher prices paid for sugar, many acres of land formerly used by their owners for growing local vegetables are now supporting sugarcane crops.

The shortage of fresh vegetables did not escape the attention of the Interdepartmental Nutrition Committee and active steps were taken during the year under the guidance of the Agriculture Department to launch a scheme designed to increase the supply of vegetables, at least in certain areas as a start. The Social Welfare and the Health Departments were also busy

impressing upon Village Councils, various other organizations, voluntary workers and the people in general the need for putting the backyards to a useful purpose either by growing food or by keeping a few hens or rabbits.

(c) Slaughter houses and Markets. There are six public and one private abattoirs. The public abattoirs administered by the Municipality of Port Louis, the Town Councils of Curepipe and Beau Bassin—Rose Hill as well as the new departmental slaughter house at Flacq are each controlled by a qualified Veterinary Officer. In other places, supervision rests with the Sanitary Staff.

There are twelve markets in the Colony.

(4) General Measures of Sanitation

68. *Health Inspection.* On 31st December, 1951, the Staff of Sanitary Inspectors consisted of:—

3 Senior Health Inspectors
5 Sanitary Inspectors Grade I
14 Sanitary Inspectors Grade II
27 ,, ,, ,, III
and 1 Port Health Inspector.

For sanitary inspection, the Port Louis municipal area is divided into six sections, Plaines Wilhems district into three sections and the remaining district into seven divisions, whch comprise a total of nine sections.

The inspections recorded as made by the Sanitary Inspectors during the year are listed in Table XIX, whilst Table XX gives particulars of prosecutions entered at the instance of the Health Department.

The notices served are enumerated below:—

Written request notices	6,524
Formal written notices	5,153
Orders under the Prevention of Malaria Ordinance ...	1,339

69. *Conservancy Services.* In the municipal and townships areas the services were satisfactorily maintained. There is room for improvement in certain rural localities where some of the new-born Village Councils which have taken over the services formerly entrusted to contractors still require a considerable amount of guidance from the District Commissioners and the Health Officers. In other places, the villagers are assuming their responsibilities with great enthusiasm and their areas are much cleaner than they used to be.

In Port Louis and in the townships of Plaines Wilhems where environmental hygiene is at its best, too many members of the public still fail to realise that house refuse is a nuisance. It is difficult to persuade them that proper dust bins should be provided instead of the old boxes or tins, if only boxes or tins were always used. In Port Louis particularly, a great number of the residents throw their house or trade refuse on the pavement and very often deposit them in the drains on the side of the street. It is easy to visualise the mess that ensues after the famishing dogs of the capital town have searched the heaps for remnants of food. The Municipal Authorities have repeatedly drawn the attention of occupiers of premises to this most objectionable nuisance, but it seems clear now that frequent recourse to law is the sole way of preventing the daily disfigurement of the streets.

TABLE XIX

Sanitary Inspectors' Yearly Report 1951

	Examination of Foodstuffs	Samples of foodstuff submitted for analysis	Seizures	Inspection of Food premises	Visits to slaughter houses	Visits to markets	Inspection of schools	Inspection of offensive trades	Inspection of other premises	Inspection on accounts of new buildings	Inspection in connection with mosquito control	Inspection in connection with notifiable diseases	Inspection in connection with night soil service	Inspection in connection with scavenging service	Desinfections carried out	No. of notices, orders and requests served	Cremations attended to
Port Louis District ...	2,609	124	41	1,813	12	152	182	225	6,418	875	3,209	190	78	93	91	756	36
Pamplemouses District ...	1,571	57	2	685	—	—	123	14	12,117	367	6,416	116	1,217	962	58	945	100
R. du Rempart District...	46	—	—	67	—	—	11	3	—	231	4,626	68	365	365	59	597	55
Flacp North Section ...	93	16	18	371	75	184	22	—	4,157	223	1,030	20	325	194	23	1,024	68
Flacq South Section ...	134	—	—	366	—	—	30	16	2,541	120	1,065	23	159	148	21	581	25
Mahébourg Section ...	2,493	—	5	392	194	206	14	—	4,300	298	4,692	22	268	719	14	916	12
Rose Belle Section ...	70	20	—	258	30	—	53	—	2,573	51	90	18	109	1,787	10	896	47
Savanne District	497	31	12	553	150	—	118	9	12,261	264	8,967	54	406	365	25	565	39
Curepipe Section	133	27	6	1,434	2	128	67	—	4,576	275	1,165	22	359	253	24	1,301	15
Vacoas Section	201	58	8	598	—	365	25	—	7,184	265	1,063	36	2,621	365	11	811	32
Rose Hill Section... ...	202	—	35	479	12	70	30	42	112	408	8,891	180	190	778	69	1,364	74
Black River District ...	577	50	1	238	—	—	10	6	3,816	76	118	11	178	277	11	847	4
Moka District	470	35	5	705	—	7	27	—	3,470	142	4,202	18	124	294	18	492	44
Total	9,096	418	133	7,959	475	1,112	712	315	63,525	3,595	45,534	778	6,399	6,600	434	11,095	551

TABLE XX

Nature of Offence	*Total*	*Number of cases*			*Sentence*	
		Successful prosecutions	*Discharged*	*Summons withdrawn*	*Total Fines*	*Total imprisonment*
Selling sophisticated milk ...	348	348	—	—	25,165	56 months 40 weeks 127 days
Failing to have the names, surnames and the kind of milk painted on milk vessels (G.N. 80/1944)	110	109	—	1	1,148	—
Failing to produce on demand Registration Certificates whilst selling milk (G.N. 42/1934)	81	79	—	2	461	—
Non compliance within delay of Notices re : nuisances as defined in Art. 18 of the Public Health Ordinance 1925	117	109	3	5	851	—
Preparing foodstuffs without taking adequate measures to prevent infection or contamination (P.H.O. 47/1925)	9	8	1	—	92	—
Exposing for sale ready eatable foodstuffs unprotected from dust and flies (G.N. 320/1920)	130	125	2	3	1,111	—
Failing to provide latrines on premises or to maintain the latrines in good condition. (G.N. 183/1926)	272	254	—	18	1,535	—
Failing to produce on demand Medical certificates—whilst selling food commodities) (G.N. 153 of 1926 and 164 of 1927)...	34	30	—	4	117	—
Burning charcoal without permission (G.N. 198/1907)..	16	13	1	2	170	—
Non compliance within delay of Order re-mosquito nuisances as defined in Ordinance 28/1946	11	10	—	1	500	—
Other Offeuces	68	67	—	1	1,732	—
TOTALS ...	1,196	1,152	7	37	32,882	56 months 40 weeks 127 days

70. *Housing.* During the year, experimental housing schemes have been in progress at Riche en Eau and Rose Belle. The aim of these schemes is research into cheaper methods of housing construction, unshackled by preconceived notions and alive to new technical developments. It is already manifest that to get out of the impasse reached in regard to housing, there is need for a temporary lowering of constructional standards, hygienic requirements being maintained at the expense of durability. Legislation is at present under consideration which is not unduly severe so as to allow buildings to be put to secure a reasonably good hygienic standard.

The following comments are taken from last year's report of the Department:—

> "There is need for more and more houses and the present shortage is indeed a very serious problem. The problem is partly economic, because many inhabitants cannot afford rents which would meet the present prices of buildings. Government, the Municipality of Port Louis and the Townships Councils are active in the preparation and financing of schemes, and new legislation is being considered ; the sugar estates have made headway ; private enterprise has provided a certain number of buildings in spite of high costs and difficulties in obtaining materials.

If however, the houses were occupied in the manner originally intended, there would be no reason for complaint. Unfortunately, overcrowding is caused by the fact that there are not enough houses for the population and high rents cause an additional aggravation. Several families occupy a construction suitable for one family and insanitary conditions are increased by the deterioration which such occupation induces. True, the Health Authorities have legal powers to prohibit overcrowding and to condemn houses which have become unfit for human habitation, but in the absence of alternative accommodation, it is no remedy to drive out the occupants from the only shelter available for them."

71. *Labour Conditions.* Conditions under which labour is employed and accommodated are mainly the concern of the Labour Department, but there is close liaison between officers of the Labour and Health Departments and every assistance is afforded for the control of sanitary conditions at Labour Camps and for supervising factories and workshops.

72. *Training of Sanitary Personnel.* Sanitary Inspectors are trained during 18 months on a syllabus similar to the one of the Royal Sanitary Institute: the minimum educational qualification required being the Cambridge School Certificate or equivalent. Six students were in training during the year.

73. *Port Louis District.* The Medical Officer of Health reports as follows:—

(a) Administration. The District of Port Louis is divided into six sections each under the control of a Sanitary Inspector.

In addition, six labourers are employed as disinfectors.

The staff of the Harbour Disinfecting Station comprises the Officer in charge, one mechanic, two stokers, one deckhand, one boatman, three disinfectors, and two night watchmen.

In addition, a Technical Assistant, two dissectors of rats, one overseer, eight rat-catchers and one carpenter are employed for rodent control.

The sanitary work of the district is under the supervision of a Senior Sanitary Inspector. Port duties are entrusted to a Port Health Inspector appointed on the 1st July, 1951.

(b) Cammunicable Diseases. The figures for communicable diseases notified during the year are:

	Cases notified		*Deaths*	
	1951	*1950*	*1951*	*1950*
Enteric Fever	80	45	4	3
Diphtheria	11	14	3	1
Erysipelas	1	1	—	—
Puerperal Fever	1	—	—	1
Acute Poliomyelitis	2	1	—	—
Tuberculosis (all forms)	180	276	—	—

Although more cases of typhoid were notified during the year, the death rate from the disease was significantly lower than in 1950.

(c) Housing. 411 applications for permit to build were received during the year, of which 394 were approved and 17 rejected. During the same period, the Municipality of Port Louis took over Bell Village and rented 135 bungalows to accommodate about one thousand residents.

The new buildings made available are but a partial remedy to overcrowding which has always been an undesirable feature of the town, made worse by the great increase of population caused by a high birth rate and a comparatively low death rate.

On the other hand, repairs to the old decrepit buildings are inconspicuous owing to shortage and high cost of building material.

(d) Food. Premises in which food is prepared for sale to and consumption by man is subjected to periodical inspections, but the unhygienic set up of the premises and habits of the personnel employed are serious obstacles to progress.

The compulsory medical examination of all persons engaged in the preparation and sale of food reduces to a certain extent the risk of transmission of communicable diseases whilst the constant efforts made by the sanitary staff to ensure protection of commodities sold by hawkers of food from contamination by flies and dust act in the same direction.

13 wine factories and 6 aerated water factories operate in the town of Port Louis under conditions which are not always satisfactory in all cases. There are also 35 eating houses or restaurants which in the majority of cases funtion under conditions already described.

It is hoped that regulations made under the Trade and Industries Ordinance will, if approved, provide safeguard to health and enable better control to be effected.

During the year 2,609 examinations were made on foodstuffs offered for sale and 41 seizures effected.

Milk hawked for sale come from the neighbouring country districts ; about 400 registered hawkers are engaged in this trade and control is rendered difficult by the large number of persons so engaged.

Over 1,100 examinations of milk hawked for sale were made during the year ; 111 samples were secured, leading to prosecution in 104 cases with the result that the fines inflicted amounted to Rs. 12,395 and imprisonment reached the total of 39 months, 11 weeks and 37 days.

Meat consumed by the inhabitants of Port Louis comes from animals slaughtered at the Municipal abattoir under the supervision of a Veterinary Surgeon employed by the Municipality. It is sold in the three markets of the town. In addition a certain quantity of frozen meat is received and stored by the Cold Storage Company.

Frozen meat is sold on the premises of the Company or in public markets when fresh meat is scarce or unobtainable.

The following figures give the number and types of animals slaughtered, the carcases of which were examined and condemned during the year under review : —

Origin and Type of animals	*Number slaughtered*	*Number examined*	*Number condemned and destroyed*
Madagascar bullocks ...	618	618	—
Rodrigues bullocks ...	326	326	—
Local bullocks	204	204	—
Cows (milch)	614	614	3
Cows (herd)	57	57	6
Heifers (milch)	19	19	—
Heifers (herd)	6	6	—
Calves	1,189	1,189	—
Goats	16,753	16,753	—
Sheep	1,173	1,173	—
Pigs	5,150	5,150	—

(e) Water. The water supply of Port Louis is derived from Mare-aux-Vacoas and Pailles. Water coming from both sources are periodically examined and are almost constantly reported upon as satisfactory, except that in the case of Pailles the filtration system invariably fails after a heavy rainfall, and the population has to be warned that at such periods, the water is unwholesome and has to be boiled before it is put to domestic purposes.

(f) Cleansing. The scavenging service in the urban area is performed by the Municipality. The dumping of household and trade refuse on the pavement or in street gutters is a common sight, in violation of municipal regulations which enact that such refuse should be placed in suitable receptacles.

About 70 per cent of the premises in Port Louis are provided with a water carriage system for sewage disposal, 25 per cent have a pit latrine and for the remainder the pail system is in use. There are a number of public latrines in the central or commercial area of the town but none in the suburbs, with the result that the inhabitants not infrequently use the shelter of the numerous bridges which span the streams running through the town, as public latrines.

(g) Quarantine. All incoming vessels are boarded by the Port Health Officer and vessels coming from infected ports are subjected to some or all of the following measures:—

(i) disinfection of the passengers' luggage ;
(ii) disinfection of the soiled linen and laundry ;
(iii) fumigation of the cargo.

Passengers leaving the Colony are vaccinated at Civil Hospital. The numbers of vaccinations or inoculations performed for the residents as well as for those leaving the Colony are as follows:—

Small pox...	2,699
Yellow Fever	901
Typhoïd	4,738
Cholera	318
Diphtheria...	22

250 vessels arrived in Port Louis Harbour during the year.

(h) Cemeteries. There are three cemeteries in Port Louis, two in Municipal ownership and a private cemetery for the Chinese community, which is under the control of the Health Department.

There are two cremation grounds in the District, one at Vallée des Prêtres and the other at Tranquebar.

36 cremations were carried out under sanitary control during the year.

74. Table XXI summaries the work done in Port Louis during 1951.

Table XXII gives particulars of cases heard by the Magistrate of Port Louis, at the instance of the Medical and Health Deparment.

PLAINES WILHEMS DISTRICT

(i) Public Health

75. There was no outbreak of communicable disease during the year under review:—

(a) Mid-year population

1942	*1943*	*1944*	*1945*	*1946*
109,808	111,206	120,277	122,487	124,319
1947	*1948*	*1949*	*1950*	*1951*
127,894	131,263	132,124	138,023	143,509

(b) Deaths

TABLE XXI

Summary of Sanitary Work in Port Louis District during the year 1951.

Inspection of Premises

	Notices (Ordinance 47 of 1925)				*Order (Ord. 28 of 1946)*			*Requests*		
	No. of visits	*No. served*	*No. complied with*	*No. not complied with*	*No. served*	*No. complied with*	*No. not complied with*	*No. served*	*No. complied with*	*No. not complied with*
Visits to Bakeries and Pastries	224	17	17	—	—	—	—	—	—	—
Cemeteries and Cremation grounds ...	54	—	—	—	—	—	—	—	—	—
Dairies	270	—	—	—	—	—	—	—	—	—
Factories :										
(*a*) Wine	234	5	5	—	—	—	—	—	—	—
(*b*) Aerated water	90	1	1	—	—	—	—	—	—	—
(*c*) Others	225	15	11	4	—	—	—	—	—	—
Hotels and Restaurants	546	14	14	—	—	—	—	—	—	—
Markets	152	—	—	—	—	—	—	—	—	—
Private Premises	6,161	570	496	74	91	78	13	5	5	—
Shops and Stores	519	24	22	2	4	2	2	—	—	—
Schools	182	4	—	4	1	1	—	—	—	—
Slaughter Houses	12	—	—	—	—	—	—	—	—	—
Stables and Cowsheds	203	4	3	1	—	—	—	—	—	—
Ships and Barges	280	1	1	—	—	—	—	—	—	—
Totals	9,152	655	570	85	96	81	15	5	5	—

TABLE XXII

	Number of cases				*Sentence*	
	Total	*Fined*	*Dis-charged*	*Summons withdrawn*	*Total Fines*	*Total imprison-ment*
1. Selling sophisticated milk.	103	103	—	—	12,395	39 months 11 weeks 37 days
2. Failing to have the names, surnames and the kind of milk painted on milk vdssels	29	29	—	—	375	—
3. Failing to produce on demand Registratien Certificate, whilst selling milk	17	16	—	1	92	—
4. Non compliance within delay of Notices re: nuisances as defined in Art. 18 of P.H.O. 1925	18	18	—	—	114	—
5. Preparing foodstuffs without taking adequate measures to prevent infection or contamination	7	7	—	—	62	—
6. Exposing for sale ready eatable foodstuffs unprotected from dust and flies (G.N. 320 of 1920) ...	33	28	2	3	182	—
7. Failing to provide latriues on premises or to maintain the latrines in good condition (G.N. 183/1926)	This is included in 4 above.					
8. Failing to produce on demand Medical Certificates whilst selling food commodities (G.N. 153 of 1927 and 164 of 1927)	8	7	—	1	23	—
9. Burning charcoal without permission (G.N. 198 of 1907)	1	1	—	—	5	—
10. Non compliance within delay of Order re : Mosquito nuisances as defined in Ordinance 28 of 1946	—	—	—	—	—	—
11. Other offences (G.N. 42 of 1934)	7	7	—	—	190	—
TOTALS	223	216	2	5	13,438	39 months 11 weeks 37days

(b) Deaths

Year	*Total*	*Death rate*
1942	2,375	23·5
1943	2,602	23·4
1944	2,490	20·7
1945	3,134	25·6
1946	2,394	19·5
1947	1,901	14·9
1948	2,524	19·2
1949	1,813	13·7
1950	1,655	12·
1951	1,873	13·1

(c) Births

Year	*Total*	*Birth rate*	*Still-births*
1942	4,024	36·6	308
1943	3,879	34·9	239
1944	4,928	41·	285
1945	4,962	40·5	358
1946	5,082	40·9	320
1947	5,638	44·1	314
1948	5,374	40·9	318
1949	5,635	41·9	322
1950	6,336	45·2	359
1951	6,423	44 8	362

(ii) SANITATION

(a) Night soil and conservancy

A fairly large number of families make use of water closets with septic tanks and absorption pits ; but the majority of the population are provided with pail and pit latrines. The Curepipe and Vacoas night soil is collected by prison labour and the transport effected by the Health Department. The sewage is disposed of at the Sewage Farm in Phoenix. A small number of pail latrines (86) in Rose Hill is collected by a contractor paid by the Township and disposed of at the Cassis Tipping Chamber in Port Louis.

(b) Collection of refuse

In the towns of Curepipe, Quatre Bornes and Rose Hill—Beau Bassin, the scavenging service is performed by the Town Councils, in the extra-urban areas by the Health Department.

(c) Water Supply

The main source of water supply is Mare-aux-Vacoas. The water is filtered and chlorinated at La Marie treatment plant.

Wells are used in Camp Fouquereaux and Carreau Galea ; rain and crude river water in Fressanges and Midlands.

(iii) Markets

There are six markets, one in Curepipe, one in Rose Hill, two in Qutre Bornes, one in Beau Bassin and one in Vacoas. The first five are controlled by the Town Councils and the Vacoas Market by the Health Department.

(iv) Slaughter Houses

The townships of Curepipe and Rose Hill—Beau Bassin own an abattoir each and the animals and carcases are examined by a veterinary surgeon appointed by the Town Council.

Animals slaughtered during the Year

	Curepipe	*Rose Hill & Beau Bassin*
Madagascar, Rodrigues and local oxen	1,110	3,146
Goats	840	2,328
Sheep	176	91
Pigs	278	608

Carcases seized

Curepipe		*Beau Bassin—Rose Hill*	
Carcases	*Cause of seizure*	*Carcases*	*Cause of seizure*
Local oxen ...	1 for tuberculosis	Local oxen ...	1 for tuberculosis, 2 for leanness
Milch cows ...	9 for tuberculosis, 2 for leanness	Milch cows ...	3 for tuberculosis, 4 for leanness
Madagascar Oxen ..	1 for tuberculosis, 1 for leanness	Madagascar Oxen	5 for tuberculosis
Goats	2 for leanness, 1 for sepsis	Goats	2 for tuberculosis, 9 for leanness
Sheep	1 for leanness		

(v) Cemeteries

There are four cemeteries in Plaines Wilhems: one in Curepipe belonging to the Town Council, one in Quatre Bornes belonging to the parochial church, one in Phœnix under Government control, and one in Beau Bassin belonging to the parochial church.

A summary of the work performed by the Sanitary Staff is shown at Table XXIII.

TABLE XXIII

Summary of Sanitary Work in Plaines Wilhems District during the year 1951

Inspection of Premises

		Notices (Ordinance 47 of 1952)			*Orders (Ordinance 28 of 1946)*			*Requests*		
	No. of visits	*No. served*	*No. complied with*	*No. not complied with*	*No. served*	*No. complied with*	*No. not complied with*	*No. served*	*No. complied with*	*No. not complied with*
Bakeries and pastries	276	9	6	3	—	—	—	2	2	—
Cemeteries and cremation grounds	146	—	—	—	—	—	—	—	—	—
Dairies	29	—	—	—	—	—	—	—	—	—
Factories :—										
(*a*) Wine	—	—	—	—	—	—	—	—	—	—
(*b*) Aerated water	11	1	1	—	—	—	—	—	—	—
(*c*) Others	28	—	—	—	—	—	—	—	—	—
Hotels and restaurants	799	—	—	—	—	—	—	5	5	—
Markets	563	—	—	—	—	—	—	—	—	—
Private Premises	21,249	1,522	1,455	67	691	678	13	2,652	2,488	164
Shops and Stores	1,203	6	6	—	—	—	—	30	27	3
Schools	122	1	1	—	—	—	—	—	—	—
Slaughter Houses	14	—	—	—	—	—	—	—	—	—
Stables and Cowsheds	1,516	100	100	—	26	26	—	12	9	3
TOTAL	25,956	1,639	1,569	70	717	704	13	2,701	2,531	170

(5) Anti-Rodent Operations

76. The Branch is composed of a technical assistant, two dissectors of rats, two overseers, seven rat-catchers and twelve labourers. This staff concentrates on the destruction of rats in infested premises and in the harbour area of Port Louis. Operations will soon be extended to the Plaisance Airport. The rat-proofing of buildings which attract, harbour and nourish rats is attended to by the Sanitary Inspectors.

The work to reduce the rat population continued in a routine manner during the year and the appointment on 1st July, 1951, of a Port Health Inspector who has rat destruction included among his special duties went a long way towards strengthening the branch. Our technique for dealing with rodents is constantly kept under review and modernised in the light of recent developments.

The methods used consist of a mixture of trapping and poisoning, stress being laid on poisoning which foils the shy and cunning rats.

Prebaiting is resorted to, and when there is definite indication that the rats like the bait selected, then the poison is incorporated. Zinc phosphide, arsenic and ' Antu '' are giving satisfactory results. The Department proposes in the near future to experiment with " Dethmor '' which is highly favoured in some other countries.

One thing which is not yet understood by the majority of the people in this Colony is that proper disposal of house refuse is an essential feature in a campaign directed against rats and that food left about in the kitchens and pantries will attract these mammals.

Table XXIV shows the number of rats caught and destroyed during the 10-year period 1942–51.

TABLE XXIV

Rats caught and destroyed during period 1942–51

Year	*Norregicus*	*Rattus Frigivorus*	*Alexandrinus*
1942	1,422	24	448	8,707
1943	758	21	120	8,563
1944	747	17	50	6,870
1945	849	14	145	7,687
1946	1,897	71	187	10,730
1947	2,760	54	65	10,829
1948	2,028	62	148	14,671
1949	1,875	62	365	17,286
1950	1,512	42	324	12,954
1951	1,142	24	282	5,796

(6) Port Health Work and Quarantine

77. The ports on the Mauritius seaboard are Port Louis and Mahebourg. Ocean-going vessels call at Port Louis which has a seasonal trade connected with the sugar crop season.

The Medical Officer of Health Port Louis is responsible for health measures in the port area in addition to his duties in the town. He was formerly assisted by the Senior Sanitary Inspector, Port Louis, who provided the help required to the detriment of his other sanitary duties and the latter could not give enough time to the inspection of imported food which is a vital part of port health work.

It was considered that a special inspector should be available for port work which requires a full time officer. Government agreed to the proposal and on the 1st July, 1951, a Port Health Inspector was appointed. As from that time, he assisted the Medical Officer of Health in the discharge of his port duties, which include *inter alia* :—

(a) the prevention of the importation of infectious disease ;

(b) the prevention of the importation of rat plague ;

(c) the inspection of imported food ;

(d) compliance with the provisions of the International Sanitary Conventions ;

(e) the supervision of the hygiene of crew and passenger accommodation in ships.

Table XXV summaries the work done by the Port Health Authority:—

TABLE XXV

Passengers under surveillance	6,704
Vessels arriving	250
Crews examined	16,595
Vessels given pratique on arrival	226
Vessels given pratique after disinfection of the linen and effects of the passengers and crew, fumigation and disinfection of the forecastle	113
Vesseis given pratique after disinfection of linen etc, and claytonizatiun of cargo	75
Vessels arriving from infected ports	24
Vessels detained for purposes of disinfection and fumigation on account of a " Convention " disease	—

78. The airport is at Plaisance in the district of Grand Port. It is under the responsibility of the District Medical Officer assisted by a Sanitary Inspector until such time as a Medical Officer of Health becomes available for that district. 98 civil aircraft arrived in the Colony with 2,409 passengers. Of these, 734 coming from infected areas were put under surveillance. Every plane visiting the Colony is disinfected on both arrival and departure. During the year, consideration was given to the construction of a mosquito-proof isolation building to secure compliance with the International Sanitary Regulations due to become effective on 1st October, 1952.

79. The quarantine station is at Cannoniers' Point in the district of Pamplemousses. The station, situated in extremely attractive surroundings, is under the care of a Steward who lives on the spot. It is used as a Schools Holiday Camp during the winter season.

The construction of the water carriage installation which had started late in 1950 was completed during the year.

(7) Water Supplies

The main source of water supply in Mauritius is the Mare-aux-Vacoas, an impounding reservoir whose capacity was raised to 597 million subic feet in 1942. It is situated in a wooded area and its catchment area is protected—no habitation and cultivation being allowed.

Mare-aux-Vacoas water is filtered and chlorinated at the Treatment Works of La Marie from which water is distributed by gravity to the townships of Plaines Wilhems through a network of supply mains and service pipes ranging from 21″ to 3″ in diameter.

Part of the water filtered at La Marie is pumped to the towns of Curepipe, Floréal and Forest Side which are situated some 400 feet above the filter beds.

Most of the supplies are private. They are either metered or are paid for as a fixed charged per quarter. Public water fountains are also provided free of charge in the poorer localities.

Mare-aux-Vacoas water is supplied to the public and military buildings, hospitals etc., and also to Port Louis but the Municipality of this town is responsible for the water supply to the private consumers. The bulk of the Port Louis water is derived from Grand River North West and is filtered and chlorinated.

In the rural areas the sources of water supplies are local streams which are dammed and from which water gravitates to public fountains and a few private consumers. The water is neither filtered nor chlorinated, but the catchment areas are protected.

The Development and Welfare Plan provides for the improvement of water supplies in the Colony:—

(a) The Mare-aux-Vacoas system will be extended to Black River District, the upper part of Moka District and to two regions to the north of the Capital Town of Port Louis. The supply planned for being 30–45 gallons per head per day.

(b) The Piton du Milieu Scheme comprising a 110 million cubic feet reservoir will supply filtered and treated water to the rural districts of the island. The supply will be between 27 to 35 gallons per head per day.

(c) Apart from these two central reservoirs, three small supplies from streams will continue to operate:—

(i) for part of the Northern Districts, water from Rivière du Rempart will be filtered and chlorinated at Nicolière.

(ii) Rivière Champagne water will be supplied to the region of Vieux Grand Port in the South, and

(iii) Rivière des Gallets water will be chlorinated and supplied to the South Western belt of Mauritius.

All these supplies will be piped and adequate storage in service reservoirs will be provided.

Improvement works under the Development and Welfare Scheme started in June 1946, are well in hand and are due for completion in June 1956.

81. The progress made in 1951 has been as follows:—

(a) Mare-aux-Vacoas System

Consumption is increasing and reached, at the end of 1951, 250,000 gallons per hour or 6,000,000 gallons per day.

The two new filters constructed in 1950 will be put into operation early this year.

A new pure water tank of 500,000 gallons capacity is under construction and will be connected to the new filters and to a new chlorination chamber and to two new electric driven pumps to be installed in 1952.

A new service reservoir of 500,000 gallons capacity is under construction at Trou-aux-Cerfs to serve Curepipe Road and Floréal, and another of 150,000 gallons capacity is to be begun at Camp Fouquereaux.

The Vacoas—Moka Main has been completed to St. Pierre and connected to the Moka line with resulting improvements in the water supply of the locality.

New service lines are being laid in Quatre Bornes and Curepipe. Pipes for the continuation of the Vacoas—Moka Main to Alma are due to arrive early this year.

(b) District Water Supplies

Construction of the Piton du Milieu Reservoir has been progressing ; over 40 per cent of the total earthwork of 8,000,000 cubic feet had been done at the end of 1951. The river diversion works have been completed and the tower is being raised simultaneously with the earthwork. The pipes for the 18″ main from Piton du Milieu to Quartier Militaire have been received and the laying is in hand. The pipes of the 15″ main from Piton du Milieu to Cluny for Grand Port and Savanne water supply are on order.

As a result of the enquiries made in England, the Paterson Engineering Company are expected to tender for Rapid Gravity filters to be installed about half mile below Piton du Milieu Reservoir for the filtration of 4,000,000 gallons per day required for the water supply of Pamplemousses, Rivière du Rempart, Flacq and Grand Port—Savanne.

(8) Hygiene of Schools

82. Following the transfer of the Schools Medical Officer to Kenya in 1949, it had not been possible to fill the three posts of Schools Medical Officer appearing on the Estimates. However one appointment was made towards the end of 1951, and the officer was due to arrive in Mauritius towards April 1952, after taking a special course of studies in the United Kingdom.

It is hoped that it will also be possible to transfer one of the Department's Medical Officers to the Schools Medical Service around July 1952.

Meantime, the schools were visited at regular intervals by the Sanitary staff and every responsible individual in the Colony is looking forward to the early implementation of the planned Schools Medical Service as the need to raise hygienic standards and to provide medical supervision in schools in greatly appreciated.

THE MATERNITY AND CHILD WELFARE CENTRE AT CUREPIPE, THE FIRST TO BE ERECTED BY THE MATERNITY AND CHILD WELFARE SOCIETY

THE MOBILE ANTE-NATAL CLINIC

PART VI

Maternity and Child Welfare

83. This service continues to be carried out mainly by the Maternity and Child Welfare Society at its centres situated at Curepipe, Rose Hill, Beau Bassin, Vacoas, Henrietta, Quatre Bornes, Centre de Flacq, Rose Belle, Rivière des Anguilles and Mahebourg and by *La Société Pasteur de la Goutte de Lait* administered by the Municipality of Port Louis.

As the Maternity and Child Welfare Society is now a permanent feature in the life of the Colony, it is fitting to make a brief reference in this report to its foundation, its objects and its activities. The following notes have been submitted by the very active Secretary of the Central Committee of the Society, of which the Director of Medical Services is a member.

84. The initiative of the Maternity and Child Welfare Movement in Mauritius is due to a group of ladies who, under the leadership of Lady Read and Mrs. Grannum, undertook in November 1925, to form a Society on the model of those existing in Britain and other foreign countries, but adapted to conditions existing locally.

The object of this Society was and still is, " to advise expectant mothers of the less prosperous classes of the Community during the period of their pregnancy, to provide medical and nursing assistance before, during and after their confinement, to educate and help them in the care of their babies, to grant them material relief they may be in need of, and for such ends . . to erect, open and manage clinics and centres in the different Districts of the Colony.

85. The first step towards the realisation of this scheme was the opening at Rose Hill of a Maternity and Child Welfare Centre on 8th March, 1926.

The work undertaken comprised confinements of the women in their own homes (when advisable) and visiting of the mothers and their babies by the Superintendent and the midwives, ante and post-natal examination and care of the women at the clinics by the doctor in charge, supervision and weighing of the babies, treatment of their small ailments and milk distribution.

In the course of the following years, the Society was able to extend its activities throughtout the island, as follows:—

(a)—(i) Opening of a centre at Rose Belle on 5th April, 1927 ;
(ii) Opening of a centre at Curepipe on 18th June, 1929 ;
(iii) Opening of a centre at Vacoas on 9th September, 1930 ;
(iv) Opening of a centre at Flacq in December, 1934 ;
(v) Opening of a centre at Rivière des Anguillies in June 1939.

(b) Quatre Bornes which had been, from January 1931, an extension of Rose Hill Centre for maternity work was converted into an independent Child Welfare Centre on 2nd July, 1940, and maternity work was started in August 1948, when a resident midwife was posted to the Centre.

(c) Henrietta, established in October 1931, as an extension of Vacoas Centre for maternity work only, added Child Welfare to its activities in September 1941, and milk distribution in April 1943.

(d) Beau Bassin undertook maternity work as early as February 1927, but remained an extension of Rose Hill Centre until its conversion into a full independent Maternity and Child Welfare Centre run by a Committee of its own in March 1944.

(e) Mahebourg opened as a Child Welfare and milk distributing Centre on 9th October, 1946. No maternity work is undertaken there.

86. From November 1925 to June 1926, the nucleus of what was to become the Maternity and Child Welfare Society consisted merely of a Committee of ladies interested in the protection of maternal and infant life and health, but after Rose Hill Centre had been opened for 3 months, it was decided to form a Maternity and Child Welfare Guild whose membership would be open to all members of the general public willing to pay an annual subscription to the Guild's Fund.

In 1940, the importance the Society had reached, as regards the scope of its work and the increase of its financial commitments, made it desirable that it should be converted into a corporate body, in order that it should have a legal status. The Ordinance incorporating the Society was drawn up and introduced by the Honourable Philippe Raffray and passed by the Legislative Council in April 1941.

87. The Society is managed and administered by a Central Committee consisting of:—

(a) 8 members appointed annually on the nomination of the Governor ;

(b) 4 members appointed at the Annual General Meeting of the Society by the members of the Society ;

(c) The Presidents of the District Committees.

Each Local Centre is run by a District Committee appointed annually by the Central Committee. Its administrative powers are those delegated to this District Committee by the Central Committee.

Each Centre is entrusted to the care of a Medical Practitioner who, as Clinic Doctor, receives a nominal honorarium from the Society and attends regularly at the Centre for the examination of women and children. He is also responsible for all prescriptions of milk. Six doctors are now in charge of the various Centres and the total number of midwives employed is 25.

88. All the expenses connected with the opening of the first Maternity and Child Welfare Centre were provided for from a Government Grant, but during the year 1926, an appeal made to the general public for donations and subscriptions resulted in the collection of a sum of Rs. 12,000 which constituted the first real asset of the Society.

In 1927, Dr. Lucien de Chazal, C.B.E., who had become highly interested in the work performed by the Society and in the results already achieved, expressed in a Memorandum to Government the opinion that the income of the sum of Rs. 100,000 he had 10 years previously offered to the Government of Mauritius to constitute a Fund for the reduction of infantile mortality, would be more profitably employed in subsidising schemes for Child Welfare Centres. From that date, the Maternity and Child Welfare Society has been the sole channel through which the de Chazal bequest has been applied. The income derived annually from this fund amounts to Rs. 6,000.

From year to year, Government has generously increased its grants to the Society and for the financial year 1950–51 the sum received from Government amounted to Rs. 46,000. To this should be added the cost of milk distributed to babies of poor families which is refunded to the Society on Public Assistance Account. This rose to Rs. 56,747.78 for the financial year 1950–51.

In addition the midwives are Government servants seconded from the Medical and Health Department, and the Medical Stores supply to the Society drugs and equipment, free of charge, on the requisition of the Clinic Doctors, as well as locally manufactured yeast tablets to be distributed monthly through the Society's Centres.

Apart from these important Government contributions, donations and subscriptions from the Town Council of Plaines Wilhems District, a number of Sugar Estates, important firms and members of the public, account for an annual income of about Rs. 6,000.

The Society collects also about Rs. 11,500 annually as confinement fees and partial payment of milk from those who can afford to contribute a small sum to the Society's Funds for the relief they receive.

89. Several of the Society's Centres are located in rented houses, most of which are inadequate as midwives' quarters as well as Child Welfare Clinics. A Building Programme has therefore been prepared by the Society.

As far as 1934, the increasing activities of the Curepipe Centre rendered the provision of special premises a matter of urgent necessity and the erection there of a concrete building which would belong to the Society was decided. This building specially designed to meet the requirements of the Centre was completed in September 1935, at the cost of Rs. 21,468.10 covered by contributions from the inhabitants of Curepipe.

The importance of carrying on the erection of other buildings was stressed by the Society in 1945, with the result that Government included in the Development and Welfare Ten Year Plan, a sum of Rs. 300,000 for the provision of 8 buildings for the Society. Of this sum Rs. 72,000 was voted in the Estimates for 1946–47, to be spent on the erection of 2 Centres. However,

lack of building materials did not allow the starting of more than one construction during 1947. This Centre, at Quatre Bornes, was completed in July 1948. Subsequently another centre was erected at Henrietta.

In the meantime, an effort was made for the purchase by the Society of suitable plots of land, where the prospective Centres would be erected. The organisation of dances, concerts, football matches and cinema shows, accounted for the raising of a special fund to which a number of sugar estates also generously contributed. The purchase of the land needed was therefore successfully carried out.

The scope of the work undertaken has been increasing steadily, though the Society has been unable to open as many other Centres as is thought necessary. During the year 1951, consideration was given to the extension of the Society's activities and an application for financial help was submitted to the Labour Welfare Fund Committee.

90. The educational aims of the Society has never been lost sight of throughout the past 25 years. The importance of advising mothers on the maintenance of their health as well as on the care of their babies is constantly in the minds of the doctors and the midwives as part of their professional duties, whilst members of the Committees who are willing to communicate to women of less enlightened classes their own knowledge of simple mothercraft, take this teaching at heart. Voluntary helpers, such as Red Cross members, have also at times been most valuable in lecturing and demonstrating at the Centres.

This close collaboration of individuals of good will and professional staff, working in close cooperation with Government, is the main feature of the Society.

After so many years experience, it has passed the experimental stage and stands as a well established and essential institution ready to supplement the Government Health and Education Services in the general plan of expansion of the Welfare Services of this Colony.

91. The activities of the Maternity and Child Welfare Society in 1951 were as listed below:—

Confinements	2,480
Attenhances of women at consultations	3,202
Attendances of infants at consultations	8,471
Attendances of infants at Centres for weighing and supervision ...	19,112
Visits to infants	2,885
Average number of infauts receiving milk daily	885
Average number of litres of milk distributed daily	451

"L'Oeuvre Pasteur de la Goutte de Lait"

92. In 1922, as a fitting commemoration on the occasion of the anniversary of the birth of Louis Pasteur, this Society was founded on the initiative of the *Société Médicale de l'Ile Maurice,* of which Dr. F. A. Rouget, O.B.E., was then president. Funds were raised by public subscription and upwards of Rs. 11,000 were thus collected.

Subsequently the Mayor of Port Louis, Mr. R. Maigrot and the Municipal Council decided to offer a building to the *Oeuvre de la Goutte de Lait* at Poudrière Street and this institution opened its doors in April 1927.

The aims of the *Oeuvre* may be briefly summarised thus:—

(a) the supply to infants of milk properly sterilised ;

(b) the conduct of an antenatal clinic ;

(c) the conduct of a clinic for infants.

As has been the case with the Maternity and Child Welfare Society, the *Oeuvre* has been enabled to make progress by the financial assistance afforded to it by the Government of Mauritius and the Municipality of Port Louis. In 1951, the Government's contribution amounted to Rs. 6,750 and that of the Municipality to Rs. 11,280.

93. *Supervision of midwives.* Supervision of persons practising midfery is entrusted to the Superintendent of Midwives and her assistant. The post of Superintendent was created in 1946 and that of Assistant in 1951. Visits to the midwives in their homes are paid by these two Officers and midwives readily appreciate the fact that they can apply to the Superintendent or her assistant for advice and guidance when any difficulty arises.

94. *Antenatal Clinics.* In addition to her supervisory duties, the Superintendent of Midwives held regular antenatal clinics at Curepipe, Vacoas, Henrietta, Camp Fouquereaux, Quatre Bornes, Rose Hill, Beau Bassin, Rose Belle, Bénarès, Rivière des Anguilles, Flacq and Long Mountain. The total number of expectant mothers in attendance was 2,265.

The Visiting Matron also held antenatal clinics at Médine (Camp de Masque), Mahebourg and Bel Air, and the number of expectant mothers seen by her was 1,010.

95.—*(a)* During 1950, a district midwifery service based on the Civil Hospital was initiated in Port Louis, the main object being to provide trainning in the patients' own homes for the pupil midwives who will be sent to the remote districts of the island after qualifying. Another reason was that the antenatal clinic which started at Civil Hospital in 1947 had become so popular that it was no longer possible to deal with all the cases deserving to be

delivered in hospital. It is gratifying to note that expectant mothers are becoming more and more health-conscious and that they now wish to have better care during their confinements than they used to have in the past. In that respect, the district midwifery service has been of considerable value. It should be pointed out that all cases delivered in the district must previously attend the antenatal clinic at the Civil Hospital.

(b) The average weekly attendance at the Civil Hospital Antenatal Clinic was 70 in 1950 as compared with 79 in 1949 and 51 in 1948.

The following figures relate to the Port Louis District Midwifery Service: —

No. of ante natal visits	76
No. of deliveries	834
No. of post natal visits	10,060

(c) During the year under review and in consultation with the Social Welfare Department and the Maternity and Child Welfare Society, consideration was given to the extension of activities in the maternal and infant welfare field. A scheme of importance covering the whole island was prepared by the Maternity and Child Welfare Society and the members of its Central Committee decided to approach the Labour Welfare Fund Committee for financial assistance for the construction of twenty-two additional centres. The Medical and Health Department felt that even if these new centres came into being, there would still be many outlying villages and hamlets which would not be catered for. The obvious answer at a time when construction is a very acute problem on the island was the provision of a travelling service. Government was approached and its approval having been obtained, a Mobile Antenatal Clinic was put on the road in August 1951. This unit staffed by officers of the Department visited at regular intervals 76 villages and hamlets and during the first five months of its existence, it was attended by 1,413 women. By the end of 1951, the unit had become so popular that numerous requests were being received for additional halting places to be included in its itinerary.

96. 39 qualified midwives are employed by Government, 16 of whom are seconded to the Maternity and Child Welfare Society, while 2 are stationed at Rodrigues. The midwives working directly under officers of the Department made 15,668 visits and attended 1,533 confinements. The figures at paragraph 91 above refer to those seconded to the Maternity and Child Welfare Society.

97. There were 34 pupil midwives in training at Victoria and Civil Hospitals on the 31st December. 14 qualified during the year.

PART VII

Prisons

98.—*(a) Population.* The total number of prisoners admitted during the year was 1,697 and the daily average of population was 384.04.

(b) Morbidity. The following figures indicate the morbidity over the 5-year period 1947–51:—

	1947	*1948*	*1949*	*1950*	*1951*
In patients	768	664	555	433	353
In patients daily average	26·98	24·7	27·9	23·04	15·3
Out patients new cases	2,926	2,725	6,209	7,018	7,219
Out patients daily average new cases ...	8·2	7·5	15·9	19·2	19·8
Deaths	10	5	1	1	—

(c) Health. The health conditions of prisoners improved steadily as from 1949. The incidence of malaria has fallen from 264 cases in 1946 to 15 cases in 1951. Seventy-nine cases of venereal diseases were treated during the year: 24 were suffering from syphilis, 4 from soft chancre and 51 from gonorrhoea and its complications. 109 prisoners were admitted with scabies and were treated. It is worthy to record that since the introduction of a new scale of diet in 1949, no cases of deficiency diseases have been recorded in the Prisons.

During the year, the routine inoculation with T.A.B. vaccine of all prisoners admitted continued, while every officer and prisoner who volunteered was vaccinated with B.C.G. after tuberculin testing.

Residual sprays of D.D.T. were applied throughout the prisons twice in the course of 1951.

PART VIII

Welfare of the Blind

99. A Survey of all Blind Persons in the Colony has been started, the object being to obtain reliable information as to the incidence of blindness and the causes thereof.

Associated with this, is a scheme to enable the early detection of eye diseases which may ultimately lead to blindness, these cases being at once referred to the eye specialist for expert treatment. To this end, instructions have been issued to Medical officers in charge of hospitals and dispensaries to keep a Register of Eye Cases for all patients suffering from eye defects whether or not it is on account of such defects that the patients seek advice.

At the Department's request, the Director of Education has instructed school teachers to refer children suffering from defects of the eye to the Government Medical Officer of the locality, by arrangement.

For the time being, the Director of Medical Services acts in the capacity of Registrar of the Blind. So far, 49 names appear on the Register.

PART IX

The Dependencies of Mauritius

I. The Chagos Archipelago

100. I had the honour of accompanying His Excellency the Governor, Sir Hilary Blood, K.C.M.G., Kt. St. J. on a trip to the Chagos Archipelago. We left Mauritius on the afternoon of the 5th September, 1951, and after visiting Diégo Garcia (which we reached on 12th September) Peros Banhos and the Salomon Islands we were back on the 2nd October. The voyage had lasted 27 days.

101. *Physiography.* The Chagos Archipelago (which belongs to the Diégo Company Ltd) is a dependency of Mauritius. It consists of numerous islands and coral reefs and lies between the parallels 4° 44′ S and 7° 41′ S and the meridians of 70° 47′ E and 72° 47′ E. The prominent feature in the archipelago is the atoll character of the islands, reefs and banks.

Diégo Garcia is the southernmost island of the archipelago and lies on an atoll. Its general elevation is from 3 to 5 feet, the outer part of the island being the highest in consequence of the pile of coral boulders thrown up by the sea. It is 1,174 miles from Mauritius and has an area of 12 square miles. Its extreme length is 34 miles and its greatest width about 1½ miles at " Nowit," while at Pointe Nord Est, the width is only a few hundred yards. The area of the lagoon, which can be classified among the finest bays in the world, is 35 square miles. Diégo Garcia consists of the main land and of three islets: East Island, West and Middle Islands which are at the entrance of the bay.

Peros Banhos is a group of 32 islands and islets which lies 114 miles North by West of Diégo Garcia. It is atoll-shaped. The area of land is about 7 square miles and that of the lagoon 125 square miles. All the islands, except *Coin de Mire,* are planted with coconut trees. Landing is difficult on all the islands on account of the swell and of the fringing reefs ; and *Ile du Coin* where landing is easier has consequently been selected as the principal settlement. As in Diégo Garcia, copra is the main industry. Small quantities of guano are exported to Mauritius from *Ile Diamant.*

Salomon Islands are a group of eleven islands and islets which lies about 14 miles eastward of Peros Banhos on an atoll reef, enclosing a lagoon. All the islands, the most fertile in the Chagos Archipelago are very flat and are covered with coconut trees. The area of land is one square mile and that of the lagoon, in which navigation is difficult, 6 square miles.

The other islands of the Archipelago: Egmont or Six Islands, Eagle Island, Ile aux Vaches, Danger Island and " the Trois Frères " are south-south-west of Peros Banhos. They still contain coconut trees, but were abandoned between 1935 and 1939.

On all the islands, the settlements are on the lagoon side and the luxuriant vegetation is for the greatest part made up of coconut groves which are self-planted. This natural growth, which the natives explain by the expressive

THE LABOURERS' CAMP AT THE PEROS-BANHOS SETTLEMENT, CHAGOS ARCHIPELAGO

words " Cocos Bon Die," is responsible for the thickness of the groves where coconut trees must number between 75 and more than 100 per acre: an overcrowding which must have a very reducing effect on the production of nuts and therefore of copra.

102. *Climate.* The climate is equatorial and although there is a slightly cooler period between the months of June and September, the fluctuations in the monthly temperatures are small. Rainfall is high and evenly distributed: the averages being about 100 inches per annum in Diego Garcia, a little more in Peros Banhos and 135 inches per annum in the Salomon Islands.

A most important advantage as compared to other copra-producing islands of the Indian Ocean, is that cyclones do not occur in the vicinity of the Chagos group.

103. *Vital Statistics.* All the figures appearing under this paragraph have been obtained from the managers of the islands visited:—

(a) Peros Banhos. In 1950 the total population amounted to 314 ; the death rate was: 12·74 per 1,000 of the population ; the birth rate: 35·03 per 1,000 of the population ; the infant mortality rate, (i.e., the number of deaths of infants under one year of age, occurring in any year for every 1,000 live births registered the same year) 272·72 ; and the maternal mortality rate: 0.

Year	*1941*	*1942*	*1943*	*1944*	*1945*	*1946*	*1947*	*1948*	*1949*	*1950*
Total population	330	364	387	360	372	372	313	323	328	314
Deaths	10	6	9	17	8	8	3	10	11	4
Births	15	14	17	16	16	10	13	14	18	11
Still Births	0	0	0	0	2	0	3	0	2	0
Infant mortality	3	0	0	2	0	0	0	2	1	3
Maternal Mortality ...	0	0	0	0	0	0	0	0	0	0

POPULATION FIGURES FOR 1951 AS AT 15.9,51

Age groups Years		*Male*	*Female*	*Total*
0— 5	...	16	35	51
6—10	...	23	17	40
11—15	...	11	19	30
16—20	...	15	19	34
21 – 30	...	22	21	43
31—40	...	16	21	37
41—50	...	16	16	32
51—60	...	13	8	21
61—70	...	5	11	16
Over 70	...	1	1	2
TOTAL	...	138	168	306

(b) Diego Garcia. In 1950 the total population amounted to 604, the death rate was 14·90 per 1,000 of the population, the birth rate 39·73 per 1,000 of the population, the infant mortality rate, (i.e., the number of deaths of infants under one year of age, occurring in any year per every 1,000 live births registered the same year): 83·33, the maternal mortality could not be calculated.

Year	*1941*	*1942*	*1943*	*1944*	*1945*	*1946*	*1947*	*1948*	*1949*	*1950*
Total population	Accurate figures not available						447	536	568	604
Deaths	23	27	24	12	12	7	12	15	14	9
Births	26	25	27	20	17	22	22	17	27	24
Still Births	1	0	0	0	0	0	0	0	0	0
Infant Mortality	4	10	10	3	1	2	3	2	3	2
Maternal Mortality ...	Figures not available									

POPULATION FIGURES FOR 1951 AS AT 15.9.51

Age groups *Years*	*Male*	*Female*	*Total*
0— 5	53	39	92
6—10	47	28	75
11—15	27	27	54
16—20	24	25	49
21—30	42	46	88
31—40	59	60	119
41—50	60	44	104
51—60	28	11	39
61—70	7	8	15
70 and above ...	1	1	*2*
TOTAL ...	348	289	637

(c) Salomon Islands. In 1950, the total population amounted to 223 ; the death rate was 17·94 per 1,000 of the population, the birth rate 58·30 per 1,000 of the population, the infant mortality rate 153·85. The maternal mortality rate cannot be given as figures are not available.

Year	*1941*	*1942*	*1943*	*1944*	*1945*	*1946*	*1947*	*1948*	*1949*	*1950*
Totat population	235	—	211	222	221	219	220	224	228	223
Deaths	2	5	3	5	6	4	5	10	5	4
Births	12	11	13	10	15	12	9	13	12	13
Still births	Figures not available									
Infant mortality	1	1	1	2	0	0	3	3	2	2
Maternal mortality ...	Figures not available									

POPULATION FIGURES FOR 1951 AS AT 15.9.51

Age groups *Years*	*Male*	*Female*	*Total*
0— 5 ...	23	19	42
6—10 ...	18	8	26
11—15 ...	14	10	24
16—20 ...	7	4	11
21 and above ...	—	—	117
TOTAL ...			220

Owing to the lack of records and to the absence of civil status documents, it has not been possible to split the age groups above 20 or to obtain the sex distribution.

104. *Health Conditions.* Health conditions in the Chagos Archipelago are bad, but readily improvable. The diet is deficient, housing is not up to modern hygienic standards, massive fly-breeding occurs in the accumulations of manure which are conspicuous in all settlements. *Culex fatigans* breeds freely and is responsible for numerous cases of filariasis *(W. bancrofti)* and rats are abundant. Yet there is not a single health problem that cannot be solved by good organisation and the application of simple methods of sanitation. It is appreciated that circumstances in the past were difficult owing to the scarcity of means of communication between Mauritius and the Lesser Dependencies, but the M.V. *Sir Jules* is now contributing to open a new era. Being given enthusiasm and perseverance, nutrition may soon improve, flies and mosquitoes together with the diseases following in their trail disappear and a sturdier population spring forth.

The following is a summary of the main recommendations and suggestions made: —

(a) Institution of suitable health records. Medical examination of labourers on recruitment and prior to their return to the Archipelago after a leave period. Supervision in Mauritius of patients sent over for treatment.

(b) Posting of a Sanitary Inspector to the islands (which is an accomplished fact at the time of writing this report).

(c) Further attempts to be made to introduce cows.

(d) Improvement of the poultry stock.

(e) Addition of 2 per cent food yeast to the flour.

(f) Growing of more fruits and vegetables.

(g) Issue of free milk to babies in lieu of a maternity allowance.

(h) Improvements to existing day nursery at Diégo Garcia. Institution of day nurseries in the other two settlements.

(i) Hygienic disposal of household and stable refuse and human excrement.

(j) Destruction of mosquitoes. (Only culcines are encountered).

(k) Improvements of the water supply.

(l) Institution of modern anti-rodent measures.

(m) Improvements to shops.

(n) Introduction of Welfare measures.

II. Rodrigues

A. General

105.—(i) Owing to scanty rainfall crops were very poor and fodder was very scarce throughout the year. The result was a lowering of the standard of nutrition, as the majority of the inhabitants were unable to buy adequate amount of imported foodstuffs. It was not surprising, therefore, that a fair number of cases of anaemia were seen during the year, although the degree of anaemia was not severe.

Overcrowding exists throughout the island, as large families are the rule rather than the exception ; however, the incidence of disease was low.

It is difficult to give an idea of the incidence of pulmonary tuberculosis in the island ; but it is probably low.

Besides localized outbreaks of influenza and enteritis and ' sore throat ' (this latter was at first thought to be diphtheria), no epidemic threatened the health of the inhabitants during the period under review.

(ii) The distribution of milk in schools, which started in January, 1951, proved to be a popular feature from the beginning and there is no doubt as to the beneficial effects the milk has had on the school children.

(iii) La Ferme, Oyster Bay and Port Mathurin including Mount Venus, English Bay and Lascar Bay, are the regions which have a piped water supply and the quality of the water is quite satisfactory.

Elsewhere the inhabitants get their water directy from wells, springs and rivers ; and, although contamination of the water by men and animals occurs fairly frequently, the incidence of serious cases of water-borne diseases was extremely low.

(iv) During the last six months, sanitary inspections have been carried out chiefly in the Port Mathurin, La Ferme, Oyster Bay and Mont Lubin regions. A very important cause of insanitary conditions was found to be the unwholesome keeping of cattle and pigs near human habitations, and especially near shops. During inspections, advice is given to the occupiers of dirty premises and an attempt is made to enlist their co-operation towards better sanitation. It was only in the case of persistent offenders that legal measures had to be resorted to ; however, it must be added that generally a steady improvement has been noted, especially in the Port Mathurin and La Ferme areas.

(v) An attempt has been started to diminish the number of mosquitoes in the Port Mathurin area. Easily accessible breeding places have been located and are being periodically treated with oil. The Cable and Wireless premises at Mount Venus and a number of buildings in Port Mathurin have been recently treated with D.D.T. and it is hoped that more premises will be so treated in the near future.

(vi) The powdered milk which the Public Assistance Commissioner has been sending to the Dependency for free distribution to children and expectant mothers has proved very valuable. Owing to adverse climatic conditions, fresh milk has been very scarce and the demand for powdered milk was considerable. Every effort is being made to encourage breast feeding and milk was given only to those who really needed it.

B. Vital Statistics

The excess of births over deaths in 1951 is 478.

In the absence of an official census, the total population of the Island in December 1951, is estimated at 15,057 inhabitants.

Births. The total number of live births was 575, and this corresponds to a birth rate of about 38·3.

Still Births. The number of still births was 24.

Deaths. Deaths registered in Rodrigues numbered 97, corresponding to a rate of about 6·5 per 1,000 of the population.

Maternal Mortality. Rate was 8·3 per 1,000.

Infantile Mortality Rate. (The number of deaths of infants under one year of age per 1,000 registered live births) was 55·6.

The main cause of deaths among infants were: congenital debility, gastro-enteritis and acute bronchitis.

C. Hospitals and Clinics

The prevailing diseases were: anæmia, gastro-enteritis, acute bronchitis, amœbiasis, influenza, venereal diseases and ascariasis.

Seven cases of leprosy were seen and sent to Mauritius for treatment.

(i) *Port Mathurin Hospital*

Out patients attendances were 11,475: an increase of 5,525 over last year's figure.

667 patients were admitted to hospital.

Operations. 228 operations were performed, out of which there were three appendicectomies, twenty six fracture cases and two osteomyelitis cases.

Dental Extractions. 427 were performed.

Vaccinations. 137 were performed against small pox, of which two were unsuccessful.

Causes of death. Among the conditions responsible for deaths among inpatients were the following: Tetanus neonatorum (one case), Izal poisoning (one case), Chronic Nephritis (one case) Peritonitis following acute gangrenous appendicitis (one case) severe anæmia and delibity (one case), Fracture dislocation of cervical vertebra (one case) Purulent meningitis (one case)), Broncho pneumonia (one case).

(ii) *La Ferme Hospital.* Out patients attendances were 11,581: an increase of 1,573 on last year's figure.

65 patients were admitted to hospital.

Minor operations: 41.

Dental extractions: 312.

Vaccinations against small-pox: 173, of which 4 were unsuccessful.

(iii) *Mount Lubin Hospital*

Dispensary attendances: 9,130.

110 patients were admitted.

Minor surgical operations: 96.

Dental extractions: 370.

Vaccinations against small-pox: 201 of which 3 were unsuccessful.

(iv) *Port Mathurin Maternity*

A fair number of women attended for antenatal examination.

100 cases of confinement, including 36 primiparas, were attended to by the midwife in Port Mathurin.

The number of still births was 8.

Forceps deliveries: 2.

Internal versions: 2.

Free milk was distributed to those infants and nursing mothers who really needed it.

D. Miscellaneous

(a) Thirty nine patients were sent to Mauritius at Government expense for treatment there—among these, there were seven cases of leprosy.

(b) Meat inspection. 187 heads of cattle were slaughtered in Port Mathurin and the viscera were examined and found free of communicable disease.

(c) Prisons. Prisoners were periodically examined during the year. Prison hygiene was maintained at a high level.

(d) Port. Pratique was given to all vessels that called at Port Mathurin during the year.

ACKNOWLEDGEMENT

106. During the year, the Department succeeded not only in maintaining a satisfactory standard of health and sanitation but also in expanding, in spite of the existing shortage of staff, inadequate equipment, delays in supplies and other difficult circumstances. The good results achieved are due entirely to the loyal and active cooperation of all members of the staff and to the fact that a good many of them did not hesitate to work longer hours when the interests of the community so required.

I am deeply grateful and I take this opportunity to express my heartfelt thanks to them all.

R. Lavoipierre,
Director of Medical Services.

27th June, 1952.

APPENDIX I

Annual Report of the Bacteriological Laboratory for the year 1951

STAFF

Senior Pathologist	... ...	A. Ng Chhung Hin, M. B., B. Ch., B.A.O. (N.U.I.) D.C.P. (London), D.T.M. and H. (England).
Pathologist	... ...	S. G. Cowper, Ph.D. (London), B.Sc., (Reading) M.R.C.S. (England), L.R.C.P. (London), D.T.M. and H. (Liverpool).
Government Chemist	... ...	Vacant.
Assistant Government Chemist	...	R. Rivalland, R.A.C. (Mauritius)).
Senior Laboratory Assistant (Pathology)	...	L. Webb.
Laboratory Assistant (Bio-Chemistry)	... ...	J. E. Hervel.
Junior Laboratory Assistant (Pathology)	...	K. Topsy, B.Sc. (London).
,,		Miss A. de Gersigny.
,,		Miss L. Webb.
,,		Miss M. Fleuriot.
,,		Miss L. Guillot.
,,		H. Duval.
,,		F. Louise.
,,		A. Bouvet.
,,		G. Issany.
,,		R. Chan Pat Young.
Microscopist	... ...	L. Dorval.
Clerk	... ...	O. Ramdanee.

The Senior Pathologist Dr. A. Ng Chhung Hin left the Colony on overseas leave on 19th February and returned on 9th December. During his absence Dr. S. G. Cowper, the Pathologist, acted as Senior Pathologist while the duties of the Pathologist were performed by Mr. L. Webb, Senior Laboratory Assistant.

On 15th July, both Mr. L. Webb and Mr. K. Topsy went to the United Kingdom on study leave. Their duties were performed by Mr. L. Dorval and Miss A. de Gersigny respectively. On 5th September, 1951, Miss L. Webb accompanied Dr. Lavoipierre to Chagos islands for a survey of the health conditions of these islands. She returned on 2nd October.

Mr. L. F. Legrigore, the clerk attached to the Central Laboratory, obtained a well deserved promotion on 1st July and was transferred on 29th November, 1952, to Medical Headquarters and was replaced by Mr. O. Ramdanee from Post Office Savings Bank.

Owing to excessive amount of work Mrs. Comty was appointed temporary Assistant on 22nd October.

While in the United Kingdom, the Senior Pathologist spent a month at the North London Blood Transfusion Centre, and the Blood Group Reference Laboratory, Lister Institute to learn the technique of RH grouping. He also represented the Colony at the International Congress of Clinical pathology held in London.

The number of examinations done at the Central Laboratory and its branches amounted to 64,151. Of these 43,490 were done at the Central Laboratory (Bacteriological Division: 33,047 ; Chemical Division: 10,443) ; 13,582 at Civil Hospital ; 7,079 at Victoria Hospital. These figures show an all round increase over the previous year.

LABORATORY RECEIPT IN THE FORM OF FEES

The total earnings for the year amounted to Rs. 20,802.65. This figure is approximate as accounts up to December 1951, were not yet closed at the Treasury.

The work of the Laboratory is divided up into the following sections:—

I. Medical Biology.

II. Pathology.

III. Bacteriology.

IV. Haematology.

V. Serology.

VI. Veterinary.

VII. Laboratory Products.

I. MEDICAL BIOLOGY

A. 6,994 Simple Routine Examinations were made

(a) *Blood (Microscopical)*

Films for malaria: —

Plasmodium malaria	1
Plasmodium vivax	3
Plasmodium falciparum	2
Undetermined rings	3
No parasites found	533

Films for microfilariae: —

Wuchereria Bancrofti	27
No microfilariae	162

(b) *Faeces (Microscopical)*

Total number examined	4,146

Helminths: —

Hymenolepis nana	1
Tænia saginata	2
Heterodera marioni ova	6
Enterobius vermicularis ova	4
Bertiella studeri	1
Clonorchis sinensis	1
Trichuris ova	1,337
Ascaris ova	687
" Hookworm " ova	2,296
Strongyloides larvæ	101
Trichostrongyle ova	1

Protozoa: —

Entamœba histolytica	136
Entamoeba coli	161
Vegetative and precystic amœbæ	79
Endolimax nana	77
Giardia intestinalis	130
Flagellate cercomonas	6
Chilomastix mesnili	22
Trichomonas intestinalis	75
Blastocystis hominis	779
No helminths, no protozoa	768

MEDICAL BIOLOGY—*continued*

(c) *Urine (Microscopical)*

Total number examined	1,719
Hyaline casts	157
Granular casts	131
Waxy casts	13
Leucocytic casts	15
Cellular casts	21
Red Blood cells casts	5
Schistosoma haematobium	184
Trichomonas vaginalis	27
Microfilariae	1

(d) *Urine (Pregnancy test)*

Total number examined	353
Positive-male toad test	146

(e) *Cerebro-spinal Fluid*

Total number examined	68
Leucocyte count	53
Differential leucocyte count	15

(f) *Pus, Discharges and Scrapings (Microscopical)*

Total number examined	10
Treponema pallidum	3
Differential count	2

(g) *Sperm for viability of Spermatozoa*

Total number examined	3

II. PATHOLOGY

Morbid histological examinations were made on 152 specimens of material.

HEAD AND NECK:—		
Scalp:	Papilloma	1
Forehead:	Papilloma	1
Eye:	Papilloma	2
Nose:	Rodent ulcer	1
	Papilloma	2
Thyroid:	Colloid goitre	2
	Normal	1
	Toxic goitre	1
Ear:	Papilloma	1
Lip:	Papilloma	1
Gum:	Gingivitis	1
Jaw:	Alveolar cyst	1
	Epulis	1
Cheek:	Simple cyst	1
Chin:	Mixed cell sarcoma	1
CHEST:—		
Breast:	Encephaloid carcinoma	7
	Scirrhous carcinoma	3
	Adeno carcinoma	2
	Chronic cystic mastitis	4
	Fibroadenoma	4
	Paget's disease	1
Lung:	Emphysema	1
	Infarct	1
	Normal	1
Abdomen:	Sarcoma	1
Omentum:	Secondary carcinoma ...	1
Duodenum:	Simple ulcer	1

II. PATHOLOGY—*continued*

Stomach:	Chronic gastritis	2
Kidneys:	Wilm's tumour	1
	Hydronephrosis	1
	Chronic nephritis	1
	Subacute nephritis	1
Liver:	Normal	1
	Fatty degeneration	1
	Cloudy swelling	1
	Multiple pyaemic abcesses ...	1
Spleen:	Haemorrhage	1
	Congestion	1
Rectum:	Cacinoma	3
Anus:	Adenoma	1
Appendix:	Chronic appendicitis	1
Retroperitoneum:	Teratoma	1

GENITAL SYSTEM:—

Prostate:	Hypertrophy	4
Testes:	Orchitis	1
Penis:	Epithelioma	2
Bladder:	Bilharzia	1
Uterus:	Normal endometrum	1
	Endometritis	4
	Fibromyoma	1
	Adenocarcinoma	1
Cervix:	Squamous carcinoma	6
	Chronic cervicitis	1
	Papilloma	1
Uterine Curettings:	Normal	1
	Product of abortion ...	1
Vulva:	Epithelioma	1
Ova:	Sarcoma	1
	Chronic inflamation	1
	Cystadenoma	2

II. Pathology—*continued*

Upper Limb:—		
	Dupuytren's contracture ...	1
Radius:	Sarcoma	1
Hand:	Simple cyst	1
Lower Limb:—		
Leg:	Epithelioma	1
Knee:	Altered blood from bursa	1
Tibia:	Abscess	1
Toes:	Gangrene	1
Heel:	Organised haematoma	1
Foot:	Hypertrophy of Epithelium	1
Nerve:	Normal	5
	Neuritis	1
	Neurofibroma	1
Bone:	Normal	2
	Osteomyelitis	2
Periosteum:	Pyogenic subperosteal abscess	1
Lymph gland:	Calcification	1
	Chronic adenitis	10
	Tuberculosis	4
	Lymphadenoma	3
	Lymphosarcoma	1
	Mixed cell sarcoma ...	1
Blood vessels:	Endarteritis obliterans ...	4
Muscle:	Normal	1
	Rhabdomyoma	1
Skin:	Epithelioma	1
	Chronic inflammation	2
	Lipoma	1
	Fibroma	1
Buttock:	Epitheloma	1
Miscellaneous:	Granulation tissue	1
	Piece of skin from running board of lorry	1
Australian beef:	Chronic adenitis ...	1
Pig:	Lymph gland	T.B.

III. BACTERIOLOGY

A. 1,245 Microspical Examinations were made

(a) *Sputum (Microscopical)*

Total number examined	966
Mycobacter, tuberculosis	144

(b) *Urine (Microscopical)*

Total number examined	4
Mycobacter. tuberculosis	1

(c) *Cerebro spinal fluid (Microscopical)*

Total number examined	5
Pneumococci	5

(d) *Throat and nasal swabbings (Microscopical)*

Total number examined	121
Corynebact. diphtheriae	14
Monilia albicans	48

(e) *Pus, discharges and scrapings etc. (Micr).*

Total number examined	149
Neissera gonorrhoeae	25
Mycobacter. tuberculosis	3
Staphylococci	1
Streptococci	1

B. 3,799 Cultural Examinations were made

(a) *Blood*

Total numbered cultured	79
Bact. Coli	2
Bact. Coli alkaligenes	1
Bact. lactis aerogenes	1
Bact. typhosum	1
Bact.. paracolon	1
Pseudomonas pyocyanea	2
Bact. Coli atypical	1
Bact. subtilis	7
Staphylococci	22
Diphtheroids	1
Inoculation to guinea pig for Mycobacter Tuberculosis	1
Inoculation to mouse for Mycobacter Tuberculosis	1

III. BACTERIOLOGY—*continued*

(b) *Faeces*

Total number cultured	296
Bact. Coli	25
Bact. Typhosum	6
Bact. proteus	9
Pseudomonas pyocynea	13
Bact. Coli anaerogenes	10
Bact. lactis aerogenes	6
Bact. faecalis alkaligenes	4
Bact. paracolon	25
Bact. Coli atypical	64
Margan's bacilli	1
Agglutination test for Bact. Typhosum	2

(c) Urine

Total number cultured	562
Bact. Coli	91
Bact. paracolon	18
Bact. Typhosum	1
Pseudomonas pyocynea	4
Bact. Coli atypical	152
Bact. proteus	4
Bact. Coli anaerogenes	7
Bact. Coli alkaligenes	5
Bact. faecalis alkaligenes	1
Streptococci	3
Staphylococci	44
Bact. subtilis	3
Diphtheroids	6
Inoculation to guinea pig for *Mycobacter* Tuberculosis	2

(d) *Sputum*

Total number cultured	5
Bact. subtilis	1
Pneumococci	1
Strepto viridans	1
Staphylococci	2
Inoculation to guinea pig for *Mycobacter Tuberculosis*	1

III. Bacteriology—*continued*

(e) *Cerebro Spinal Fluid*

Total number cultured	77
Bact. Coli	1
Bact. proteus	2
Bact. subtilis	22
Pseudomonas pyocynea	1
Pneumococci	4
Staphylococci	7

(f) *Throat and Nasal Swabbings*

Total number cultured	1,821
Corynebact diphtheriae	181
Pseudomonas Pyocyanea	3
Neissera Catarrhalis	3
Bact. friedlanderi	4
Bact. subtilis	6
Pneumococci	2
Strepto viridans	64
Streptococci	56
Staphylococci	161
Diphtheroids	82
Virulence test for Corynebact Diphtheriae ...	3

(g) *Pus, Discharges and Scrapings, etc.*

Total number cultured	954
Bact. Coli	9
Bact. friedlanderi	5
Pseudomonas pyocyanea	4
Doderlein's bacilli	1
Morax axenfeld	6
Bact. Coli anaerogenes	3
Bact. Coli atypical	4
Bact. subtilis	115
Strepto viridans	4
Streptococci	10
Staphylococci	654
Pneumococci	4
Diphtheroids	122
Inoculation to guinea pig for *Mycobacter Tuberculosis*	5

III. BACTERIOLOGY—*continued*

(h) *Miscellaneous*

Total number cultured	5
Oleum ricini	1
Vaseline gauge	1
Paraffin sterility test	1
Dust	2

C. AUTOGENOUS VACCINE WERE PREPARED FROM THE FOLLOWING ORGANISMS ISOLATED, AMONG OTHERS, FROM VARIOUS SAMPLES, 19 IN ALL

(a) *Urine*

Bact. coli	3
Atypical Bact. coli	3

(b) *Throat and Nasal Swabbings*

Strepto viridans	1
Staphylococci	1

(c) *Pus, Discharges and Scrapings etc.*

Staphylococci aureus	9
Staphylococci albus	1
Streptococci	1

D. AGGLUTINATION TESTS

Significant agglutinins for Bact. Typhosum "H" antigen	719
Significant agglutinins for Bact. Typhosum "O" antigen	467
Significant agglutinins for Proteus OX 19 ...	1
Significant agglutinins for Proteus OX K ...	2
Significant agglutinins for Proteus OX 2 ...	2
Unsuitable for test	17
Total number of sera submitted for agglutination test	1,557
E. Water analysis	367
F. Milk analysis	22

IV. HAEMATOLOGY

Routine Blood Examinations

Total number examined	2,807
Full counts of red and white cells and haemoglobin determinations	801
Differential leucocyte counts	599
Blood picture	32
Clotting and bleeding times	13
Sedimentation rate	145
Reticulocytes counts	2
Blood platelets	4

V. SEROLOGY

(a) *Blood*

Kahn test:—

Negative	9,941
Doubtful reactions	938
+	441
+ + ...	673
+ + + ...	497
+ + + + ...	125
Unsuitable for test	718
	13,333

(b) *Cerebro-spinal fluid*

Negative	29
Doubtful reactions	10
+	3
+ + ...	2
+ + + ...	1
Unsuitable for test	3
	48

(c) *Blood*

Paul-Bunnell test	3

VI. VETERINARY

A. Medical-Biology

(a) *Blood (Microscopical)*

Total number examined	1

(b) *Foetusses, Discharges, Scrapings, etc.*

Total number examined	4
Bact. Coli	1

B. Bacteriological

(a) *Foetusses, Discharges, Scrapings, etc.*

Total number examined (cultured)	2
Brucella abortus	1

C. Agglutination tests

Significant agglutinins for *Brucella Abortus* ...	293
Total number of sera submitted for agglutination tests	524

Autogenous vaccines were prepared during the year 1951 ; details of which will be found under the Bacteriological Section.

T.A.B. vaccin prophylaxis	41½ litres
T.A.B. vaccin protein shock	200 ccs.

VIII. Survey.

(a) *Schistosoma Hæmatobium in urine (School children)*

Total number examined	2170
Number of positive	263

CONCLUSION

I would like to tender my warmest thanks to the members of the staff of the Central Laboratory and its branches for their devotion to duty and their loyal co-operation throughout the year.

A. Ng. Chung Hin,
Senior Pathologist.

19th January, 1952.

ANNEXURE I

Annual Report of the Government Chemist for the year 1951

STAFF

Mr. R. Rivalland acts as Government Chemist and Mr. E. Hervel as Assistant Government Chemist.

Three new Junior Laboratory Assistants were trained for the Bio-Chemistry routine work during a three months' stay in the laboratory.

We have again to deplore an insufficient staff in this laboratory. The Government Chemist and his assistant had to carry the whole burden of work, which this year, proves a record as regards the number of exhibits received and the determinations done.

We have to point out that due to this situation only routine analyses could be done, no time being available for any research work or to develop modern methods.

The Acting Government Chemist was reappointed member of the Liquor Licensing Board and as such went to Réunion Island, on mission, to study the local production of rum and laws governing its manufacture and sale. A report on same has been sent to the Liquor Licensing Board.

The supervision of the laboratory at the Customs Department was done regularly.

Out of 551 samples of milk received 80 per cent were found adulterated.

Analysis of water from Piton du Milieu, La Nicolière and La Marie were done at the request of the Director of the Public Works Department. Monthly checks of waters for drinking purposes from La Marie and Pailles were carried out.

Analyses of edible oils received in the colony were done on each consignment.

The Controller of Supplies' Department started a survey on the moisture contents and weights of bread in the bakeries of the Colony.

The following figures give a comparison for the three successive years:—

		No. of exhibits received	*No. of determinations*
1949	...	4,480	—
1950	...	4,503	7,156
1951	...	5,733	10,443

The table below shows the details of the number of exhibits received and determinations made during the year 1951:—

I. General Chemical Analyses

	No. of exhibits received	*No. of determinations*
Gandia	97	97
Opium	21	36
Rum (Police cases) ...	172	516
Wine	30	150
Motor Spirits	17	17
Tissues	11	25
Bread	57	114
Oil (edible)	613	1,226
Butter	2	10
Water	63	415
Chinese drugs	8	8
Whisky	1	5
Milk	551	2,660
Dried Milk	25	125
Rum (from warehouse) ...	180	180
Power alcohol	110	110
Pharmaceutical Drugs ..	87	87
Stomach Contents ...	39	50
Miscellaneous	37	91
	2,121	5,922

2. Bio-Chemistry:—

	No. of exhibits received	*No. of determinations*
Urine	962	1,807
Faeces	15	15
C.S.F. Proteins	39	39
,, Chlorides	32	32
,, Glucose	23	23
,, Acetone	1	1
,, Calcium	1	1
Blood Sugar	1,232	1,232
,, Urea	1,229	1,229
,, Chlorides	25	25
,, Calcium	2	2
,, Van Den Bergh Reaction ...	18	18
,, Cholesterol	6	6
,, Alcohol	8	8
,, Proteins	9	9
Miscellaneous	10	74
	3,612	4,521

ANNEXURE II

Annual Report of Civil Hospital Branch Laboratory for the year 1951

Total number of examinations 13,582

I. MEDICAL BIOLOGY

5,573 MICROSCOPICAL EXAMINATIONS WERE MADE

(a) *Blood (Microscopical)*

Films for malaria:—	
Undetermined rings	4
No parasites found	224
Films for microfilariae:—	
Wuchereria bancrofti	19
No microfilariae	124
TOTAL ...	371

I. Medical Biology—*continued*

(b) *Faeces (Microscopical)*

Total number examined	2,796
Helminths:—	
Hymenolepis nana	3
Taenia saginata	1
Clonorchis sinensis	1
Enterobius vermicularis ova	4
Heterodera marioni ova	2
Trichostrongyle ova	18
Strongyloides larvae	99
Trichuris ova	460
Ascaris ova	432
" Hookworm " ova	684
Protozoa:—	
Entamoeba histolytica	38
Entamoeba coli	218
Vegetative and precystic	7
Endolimax nana	54
Giardia intestinalis	115
Chilomastix mesnili	15
Trichomonas intestinalis	91
Blastocystis hominis	321
No. helminths, no protozoa	1,097

(c) *Urine (Microscopical)*

Total number examined	2,393
Hyaline casts	194
Granular casts	176
Cellular casts	34
Leucocytic casts	47
Waxy casts	14
Red Blood cells casts	1
Schistosoma haematobium	393
Trichomonas vaginalis	76
Fungus	16
Spermatozoa	14

(d) *Cerebro-Spinal Fluid (Microscopical)*

Total number examined	13
Leucocyte counts	7
Differential leucocyte counts	6

II. BACTERIOLOGY

2,138 Microscopical Examinations were made

(a) *Sputum (Microscopical)*

Total number examined	1,632
Mycobacter Tuberculosis	244

(b) *Urine (Microscopical)*

Total number examined	2

(c) *Cerebro-Spinal Fluid (Microscopical)*

Total number examined	8
Pneumococci	2

(d) *Throat and Nasal swabbings (Microscopical)*

Total number examined	87
Corynebact Diphtheriae	2

(e) *Pus, Discharges and Scrapings (Microscopical)*

Total number examined	409
Neisseria Gonorrhoeae	96
Mycobacter Tuberculosis	1

III. HAEMATOLOGY

Total number examined	1,518
Total counts of red and white cells and haemoglobin determinations	901
Differential Leucocyte counts	202
Blood grouping	316
Blood Sedimentation Rate	98
Reticulocyte count	1

IV. BIOCHEMISTRY

Total number examined	4,353
Quantitative estimations of glucose	97
Quantitative estimations of albumen	236
Qualitative tests for determination of acetone ...	56
Qualitative tests for determination of bile ...	71
Specific gravity	18
Blood test in urine	1
Tests for occult blood in stools	11
Total number of examinations	7,079

ANNEXURE III

Annal Report of Victoria Hospital Branch Laboratory for the year 1951

I. MEDICAL BIOLOGY

3,827 Microscopical Examinations were made

(a) *Blood (Microscopical)*

Films for malaria: —	
Plasmodium vivax	1
Plasmodium falciparum	2
No parasites found	174
Films for microfilariae: —	
Wuchereria bancrofti	10
No microfilariae	50
Total ...	237

(b) *Faeces (Microscopical)*

Total number examined	2,183
Helminths: —	
Enterobius vermicularis ova	3
Heterodera marioni ova	2
Trichostrongyle ova	8
Strongyloides larvae	44
Trichuris ova	761
Ascaris ova	573
" Hookworm " ova	1,021
Protozoa: —	
Entamoeba histolytica	26
Entamoeba coli	61
Vegetative and precystic amoebae	27
Endolimax nana	42
Giardia intestinalis	79
Chilomastix mesnili	21
Trichomonas intestinalis	24
Blastocystis hominis	306
No helmininths, no protozoa	437

(c) *Urine (Microscopical)*

Total number examined	1,407
Hyaline casts	93
Granular casts	101
Waxy casts	18
Leucocytic casts	40
Cellular casts	52
Red blood cells casts	10
Schistosoma haematobium ova	91
Trichomonas vaginalis	70
Microfilariae	1
Fungus	8
Spermatozoa	13

II. BACTERIOLOGY

769 MICROSCOPICAL EXAMINATIONS WERE MADE

(a) *Sputum (Microscopical)*

Total number examined	600
Mycobacter Tuberculosis	117

(b) *Throat and Nasal swabbings (Microscopical)*

Total number examined	23

(c) *Pus, Discharges and Scrapings (Microscopical)*

Total number examined	142
Neisseriae Gonorrhoae	15

(d) *Faeces (Microscopical)*

Total number examined	2
Mycobacter Tuberculosis	1

(e) *Urine (Microscopical)*

Total number examined	1

(f) *Cerebro-Spinal Fluid (Microscopical)*

Total number examined	1

III. HAEMATOLOGY

Total number examined	1,941
Total counts of red and white cells and haemoglobin determinations	1,424
Differential Leucocyte counts	349
Blood grouping	165
Clotting and bleeding times	1
Blood sedimentation rate	2

IV. BIOCHEMICAL

(a) *Urine*

Total number examined	542
Quantitative estimations of glucose	22
Quantitative estimations of albumen	6
Qualitative tests for determination of acetone ...	72
Qualitative tests for determination of bile ...	20

APPENDIX II

Report on the work done on Schistosomiasis (Bilharzia Disease) at the Central Laboratory, Reduit, during the year 1951

Schistosomiasis in Mauritius is confined to the vesicular form of the disease caused by Schistosoma hæmatobium. S. Mansoni (intestinal) Schistosomiasis is not endemic in the island. S. hæmatobium occurs also in Madagascar, where it is extensive, but is not known in Réunion, Rodriguez or Seychelles.

The only serious study of the disease in Mauritius made so far seems to be that made by Adams in 1934–35. (A.R.D. Adams. Annals of Tropical Medicine and Parasitology. Vol. XXVIII. No. 2 p. 195 and Ibid. Vol. XXIX. No. 2 p. 255). He incriminated *Bulinus (Pyrgophysa) forskali (Ehren)* as the mollusc vector and surmised that this is the only vector in Mauritius.

The present investigation, which continues, was undertaken with the following points in view:—

(1) The extent of Schistosomiasis in Mauritius, its local distribution and any significant seasonal, age, sex or race variations.

(2) Confirmation or refutation of Adam's discovery that *(B.P.) Forskali* is the sole local vector.

(3) The collection of any data of value relative to future control work.

This report comprises the result of one year's investigation (January—December 1951). The work is continuing.

Part I—Survey

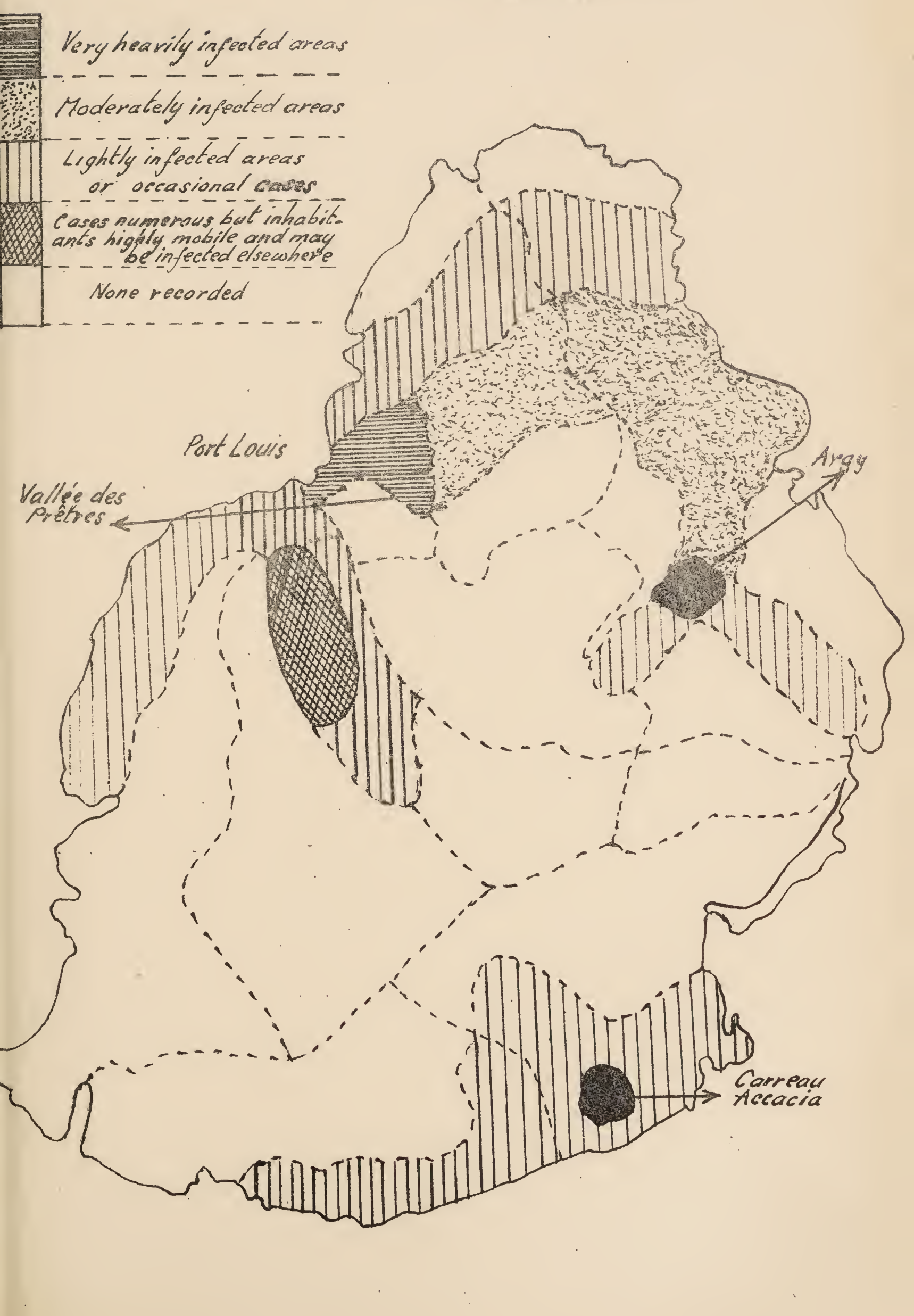
The survey was undertaken as follows:—

(1) Recording of all cases of Schistosoma positive urines sent to the Central Health Laboratory, Réduit, the Civil Hospital Laboratory, Port Louis and the Victoria Hospital Laboratory, Quatre Bornes, together with relevant data. Data were also supplied through the kindness of Major Vincent, R.A.M.C. from the Military Hospital Laboratory, Vacoas. It was, however, found that the Army laboratory cases were almost all African soldiers or Mauritian soldiers who had been in the Middle East and they were therefore excluded as not relevant to a survey in Mauritius.

(2) Examination of samples of school children in schools in different parts of Mauritius, with collection of relevant data.

The preparation, from the above, of graphs and an approximate distribution-map of the island.

APPROXIMATE DISTRIBUTION OF S. HAEMATOBIUN IN MAURITIUS
(Based on 1951 findings)



I. Cases Recorded at Réduit, Civil Hospital and Victoria Hospital

Urines were examined by centrifugation and microscopic inspection of the deposit for ova. The following figures were obtained (1st January, 1951 to 31st December, 1951). At the Réduit Laboratory 152 cases were recorded as positive, at the Civil Hospital 340 cases and at the Victoria Hospital 62 cases, a total of 554 cases. On this total 325 were males, 154 females, and in 75 cases the sex was not recorded.

As regards age groups, 15 positive cases were in the age groups 0–5 years, 148 in the 5–15 group, 132 cases in the 15–25 group and 71 were over 25 years. In 188 cases the age was not known.

These figures are summarised in the following table:—

Total cases recorded :—	
Reduit	152
Civil Hospital	340
Victoria Hospital	62
	554
Sex Ratio :—	
Males	325
Females	154
Sex unrecorded	75
	554
Age incidence :—	
years	
Age group 0 – 5	15
5 – 15	148
15 – 25	132
25 + ...	71
unrecorded	188
	554

The ratio of infected males to infected females was 325 to 154 or 65 to 31, i.e., approximately just over twice as many males as females.

Wherever patients' place of domicile was sent with the specimen this was recorded in the two monthly summaries and also by means of coloured pins on a wall map at Réduit. Table II shows all the localities from which 415 of the positive cases were recorded during the year.

TABLE II

Locality	*No. of cases*	*Locality*	*No. of cases*
Port Louis	186	Fond du Sac	3
Poudre d'Or	10	Carreau Esnouf	1
Beau Séjour	9	Rivière du Rempart	3
Beau Plan	3	Deep River, Roches Noires	1
Flacq	12	Beau Champ	1
Surinam	1	Terre Rouge	2
Rose Hill	23	Cassis	1
Argy Queen Victoria Sugar Estate ...	26	Roche Bois	7
Beau Bassin	11	Mon Désert, Mon Trésor	1
Quatre Bornes	12	Moka	4
Mahebourg	6	Sauve Terre	5
Pamplemousses	9	Clarens	2
Union Vale	6	St André	1
Bon Espoir	2	Triolet	1
Sainte Croix	6	Plaine Magnien	1
Long Mountain...	8	Bambous	4
Floréal...	4	Vallée Pitot	1
Eau Coulée	2	New Grove	1
Mapou	6	Saint Hubert	1
Bel Ombre	1	Le Vallon	1
Vacoas	8	Camp de Masque	1
Phoenix	2	Labourdonnais	1
Martindale	1		
Petite Rivière	2		
Piton	2		
Belle Rose	3		
Réduit	2	(laboratory staff)	
Carreau Acacia...	18	+ many cases recorded by Mobile Dispensary	

It will be noted that the most heavily infected localities are the Port Louis area and also Poudre d'Or, Flacq, Argy, and Carreau Accacia. That part of the island north of a line running approximately from just south of Port Louis—Argy—Flacq is much more heavily infected than the southern half. There is another zone of infection along the southern coast (approximately Mahebourg to Chemin Grenier).

The central uplands are relatively free. It must be emphasised that the patients domicile is not necessarily the locality where the infection was acquired. The fairly high number of cases recorded from the towns of Plaines Wilhems (Rose Hill, Beau Bassin, Quatre Bornes) does not necessarily imply a heavy *local* incidence since the inhabitants of this relatively wealthy area travel a good deal about the island on holiday, etc. The attached sketch map shows the approximate distribution so far as it can be computed from the data so far available. (But *see* Addendum at end of this report).

The Mobile Dispensary

In addition to cases recorded in the three laboratories and examined in the schools we have received a report from Dr. Jeetoo, Medical Officer in charge of Mobile Dispensary, reporting 21 cases of Schistosomiasis at Carreau Accacia. The report is dated 23rd March, 1951 and the patients vary in age from 6 to 28 years.

Carreau Accacia seems to be the only heavily infected focus south of Port Louis Argy—Flacq line. The village is on the edge of a rocky stream used for washing clothes by the villagers. This stream dries up, at least along much of its course, in the dry season. *B.(P) forskali* is the commonest snail in at least one place in this little river.

Army and Navy Recruits

A request was made to the Medical Officer in charge of examining recruits to the local Royal Volunteer Reserve to supply the number of Bilharzia positive cases discovered. A similar request was made to the Army Medical Authorities to supply the same information in regard to Mauritian army recruits. Both agreed to comply, but so far no information has been received.

Part II—Work in the Schools

The second part of this survey consisted in the collection and examination of specimens of urine collected from samples of school children in different schools, chosen from different age groups and races and both sexes. Up to now fourteen schools have been visited. It is hoped that this work will be increased in 1952. These schools were deliberately chosen in localities spread over the whole island.

Before visiting each school, the staff were notified of the impending visit and requested to arrange for the children to take exercise an hour or so before the visit, since it is known that ova are passed more freely after exercise.

At first as many specimens as possible were collected but later it was found that with the time at our disposal, and a depleted laboratory staff, a sample of 150 specimens was the most convenient number that could be dealt with.

The children were chosen as representative of various age groups and about equal numbers of both sexes were examined. Urine was collected in eight ounce medicine flasks, the end-stream specimen being specially requested. Urine specimens were brought to the laboratory by car and immediately centrifuged and the deposit examined for ova. A single egg, dead or living, or hatched miracidium, was regarded as indicating past or present infection and noted as positive. Hæmaturia without ova, though highly suggestive, was not recorded as positive.

The names, ages, sex were noted in the case of each child. The presence or absence of a stream near the school was also noted and where a heavy infection rate was found the local stream was searched for *B.(P) forskali*.

It was originally intended to combine the urine examination with intra-dermal tests with cercarial antigen and a supply of this antigen was obtained from the Schistosomiasis Research Laboratory, Salisbury, Southern Rhodesia. In the first school visited (Queen Victoria Estate, Argy) it was however found that this test was unreliable. The whole laboratory staff were then tested and the unreliability confirmed.

The following are the results obtained:—

TABLE III. A. Argy School

Urine Examinations and Skin Tests

Urine+ve Skin test + ve	*Urine + ve Skin test − ve*	*Urine − ve Skin test − ve*	*Urine − ve Skin test + ve*	*Urine + ve Skin test ±*	*Urine−ve Skin test ±*	*Urine and Skin test same*	*Urine and Skin test different*
13	7	8	9	8	5	21	29

± = equivocal reaction.

50 children were skin tested including known positives and negatives.

The result of the test carried out on the laboratory staff were as follows:—

TABLE III. B

Laboratory Staff—Urine Examinations and Skin Tests on 10 and 11.5.51

Reference No.	*Skin Reaction*	*Urine + or −*
1	+	+
2	+	−
3	−	−
4	+	−
5	±	−
6	+	−
7	−	−
8	+	−
9	−	−
10	−	+
11	−	−
12	−	−
13	±	−
14	+	−
15	+	−
16	?	−
17	−	−
18	±	−
19	+	−
20	+	−

i.e. in 7 the results agreed and in 12 differed.
Nos. refer to members of laboratory staff.
± = equivocal reaction.

This confirmed the unreliability of this test in our opinion. Accordingly skin testing was not continued. It has apparently yielded good results in the hands of Rhodesian experts but it is possible that the test is reliable only when the antigen and the patients' parasites come from the same local strain.

The total figures for the schools examined are as follows:—

No. of schools visited	14	
No. of children examined	2,170	
No. of positive urines	263	
% age ,, ...	11·65	
No. of positive males	163	
No. of positive females	100	
Approximately Sex ratio	♂ : ♀ = 18 : 11 or just over 1·5 : 1	
No. of positives in age group	0 − 5 20	out of 260 positives
No. of ,, ...	5 − 10 155	
No. of ,, ...	10 − 15 85	

Table IV shows the detailed findings of all the schools visited.

TABLE IV

Serial No.	School	No. in school	No. examined	No. of + urines	% positive urines	No. of + males	No. of + females	Approx. ratio of + to + ♂♂ ♀♀	Age Group 0–5 incl	Age Group 5–10 incl.	Age Group 10–15 incl.	
1	Queen Victoria S.E. School Argy..	198	134	78	57·8	60	18	10–3	11	55	12	
2	Camp de Masque Govt.	276	205	6	2·9	1	5	1–5	0	5	1	
3	Moka Govt.	348	301	7	2·3	3	4	3–4	0	3	4	
4	Vallée des Prêtres Govt.	106	76	29	38·2	22	7	3–1	1	19	8	
5	Arsenal Govt. School, Terre Rouge	144	108	12	11·1	9	3	3–1	2	7	3	
6	Rose Hill Govt.	918	149	7	4·7	4	3	4–3	1	3	3	
7	Rivière des Angullles Govt. ...	774	149	3	2·0	0	3	0–3	0	3	0	
8	Mahebourg Govt. Boys	306	150	2	1·3	2	0	2–0	0	1	1	
9	Trois Boutiques	229	149	67	44·9	37	30	4–3	3	42	22	
10	Escalier Govt.	543	150	2	1·3	1	1	2–0	0	1	1	
11	Chemin Grenier Govt.	655	145	3	2·1	1	2	1–2	1	0	2	
12	Pamplemousses Govt.	432	155	26	16·8	11	15	2–3	1	9	14	15+2
13	Poudre d'Or Govt.	—	152	18	11·8	12	6	2–1	0	5	13	
14	Rivière du Rempart	715	147	3	2·0	0	3	0–3	0	2	1	
	TOTAL UP TO 31.12.51 ...	—	2,170	263	11·65	163	100	163–100 approx. 1½ to 1	20 (=7.6%)	155 (=59·1%)	85+2 over 15 (=33·3%).	

It will be noted that infection rates of 10 per cent or more were encountered in 6 out of 14 schools. (Argy, Vallée des Prêtres, Arsenal (Terre Rouge), Trois Boutiques, Pamplemousses, Poudre d'Or).

The heaviest infections were in the schools at Argy (57·8 per cent), Trois Boutiques (44·9 per cent) and Vallée des Prêtres (38·2 per cent). *Bulinus (Pyrgophysa) forskali* was found in the neighbourhood of two of these three (Vallée des Prêtres and Trois Boutiques) but not at Argy, where careful and repeated search along two different stretches of the River Cognard by experienced searchers has failed to discover this snail. The river runs very close to the school and is used by the children for play, washing clothes, and probably drinking and it is difficult to explain why all efforts to find this mollusc at Argy should have failed in view of the high infection rate of nearly 58 per cent ; assuming that it is, indeed, the sole vector.

Nilodin Treatment of Children at Argy

Following the discovery of the high infection rate among children at the Queen Victoria Sugar Estate School, the Medical and Health Department recommended Nilodin (Miracil D) treatment and this was carried out on 80 children between the dates of 23rd July, 1951 and 27th July, 1951. These children were all proved positives in the examination carried out when the school was first visited on 26th April, 1951. Out of these 80 children, 58 were examined on 5th November, 1951 (22 being absent), i.e., just over 3 months after treatment.

The results were as follows. Out of 58 urine samples:—

4 were negative
13 showed only dead ova
3 showed living and dead ova
37 showed living ova (e.i. well formed miracidia), and no dead ova

Conclusions which might be drawn from this one inconclusive experiment are:—

1. The children had become re-infected so soon after treatment that they were again passing ova within just over three months.
2. They were not all taking their Nilodin. The school staff stated that instructions had been exactly complied with.
3. The Nilodin was ineffective.

The four negatives and large number passing dead ova do seem to suggest that the Nilodin had some effect.

It is understood that there has been some success in the treatment of infected adults with Nilodin in the Mauritius Hospitals.

Part III—Experiments with Snails

With a view to confirming or refuting Adam's work experiments were carried out with certain species of Mauritian fresh water mollusc in the laboratory. In addition, snails have been established under near-natural conditions in running water in a concrete drain outside the laboratory. Viable ova or miracidia are added to these, when available and it is hoped to obtain the services of an infected patient who will urinate regularly into this drain thus exposing the snails to miracidia under conditions comparable to those in the field.

As a result of these experiments typical living schistosoma cercariae were obtained in three crushed specimens of *B.(P) forskali* from 30 days after exposure to miracidia. The successfully infected snails died before they shed cercariae into the surrounding water but the cercariae were observed alive by several persons in three different crushed snails and had the appearance of typical schistosoma cercariae, i.e., a fork-tailed apharyngeal cercaria with no eye spot.

It is hoped that in due course more cercariae may be obtained and experimental mice exposed in order finally to confirm Adam's work, but the discovery of these cercariae does appear to be presumptive confirmation.

All experiments carried out with other species of snails were negative, but *Limnea Mauritiana* has at times shown attraction. Contact was observed but no penetration.

It was designed to obtain speciments of the common vectors of *S. haematobium* in Africa to test for their susceptibility to the Mauritius strain. These experiments might also throw some light on the geographical origin of the Mauritius strain of *S. haematobium*. Accordingly a request for some living specimens of *Bulinus truncatus* from Egypt was made to the Bilharia Snail Destruction Section in Cairo and for specimens of the Central African vector *Physopsis Globosa* to the Schistomiasis Research Station, Salisbury, S. Rhodesia. No reply was received from Egypt but a consignment of *Ph. Globosa* was sent from Salisbury.

Unfortunately the snails did not survive the journey so that these experiments have not been undertaken so far.

In November, Dr. Gaud of the W.H.O. (Schistosomiasis Section) visited the island from French Morocco. He was shown the work in the laboratory and taken to visit Carreau Accacia, as a typical infected locality, and shown *B.(P) forskali* both in the field, in the drain and in vitro.

Dr. Gaud tendered helpful advice and is of the opinion that the local *B.(P) forskali* may be a subspecies or even a different species as it is smaller than those with which he was acquainted in Africa.

Future Plans

The statistical collection of case records in the three laboratories will continue in 1952. The examination of school children will recommence after the school holidays. The search for *B.(P) forskali* will continue when the rains fill up the streams, now mostly dry. What happens to these snails during the dry season is a question which requires attention. It is hoped to obtain the services of a patient to maintain infected snails in the drain. It is too early at present to make recommendations with regard to control work but there seems to be scope for field experiments with Molluscacides.

ACKNOWLEDGEMENTS

I am indebted to the Headquarters Staff of the Medical and Health Department for their suport in this work and to the Laboratory technical staff for their efficient cooperation. I am further indebted to the Director of Education for arranging the visits to schools and to the staff of the schools visited for their help. I would also like to thank these practititioners who have complied with our request to accompany all patients or specimens of urine sent to the laboratories for examination for schistosimiasis with details regarding the patients' age, sex, race and place of domicile.

I. ADDENDUM

Since writing the above report *Bulinus (pyrsophysa) Foraskali* has been found in a rapidly flowing canalised drain in the Stanley area of Rose Hill. This suggests that the rather numerous cases from the towns of Plaines Wilhems (Rose Hill, Quatre Bornes, Beau Bassin) may, in fact, be acquired locally ; and not as surmised above, by persons visiting other areas.

S. G. COWPER,
Pathologist.

APPENDIX III

Report on the Mental Hospital for the year 1951

The total number of certified insane persons in the Colony on 31st December, 1951 was 1,099 compared with 1,095 on 31st December, 1950.

The distribution of the 1,099 certified insane persons on 31st December, 1951, was as folows:—

	General			*Indian*			*Chinese*			*Grand Total*
	M	*F*	*T*	*M.*	*F.*	*T.*	*M.*	*F.*	*T.*	
At Mental Hospital ...	169	153	322	161	112	273	18	10	28	623
On probation leave ...	86	69	155	157	111	268	5	5	10	433
On leave under G.N. No. 239/24	15	11	26	11	6	17	—	—	—	43
TOTAL	270	233	503	329	229	558	23	15	38	1,099

2. The insane rate per 10,000 of the population of the island was 22·71, the estimated mid-year population in 1951 was 483,859.

3. The percentage sex distribution of the 1,099 certified insane persons was: males 56·60 ; females 43·40.

HOSPITAL POPULATION

4. There were 645 persons (males 363 ; females 282) in hospital on 31st December, 1951, of these 15 males and 7 females were under interim order detention pending decision as to their mental state.

The daily average number resident was 668 compared with 675 in 1950.

The maximum number resident in hospital was 708.

5. Table showing Admissions, Discharges and Deaths during 1951:—

	Male	*Female*	*Total*	*Male*	*Female*	*Total*
In Hospital on 1.1.51	—	—	—	352	270	622
Cases admitted						
1st Admissions	167	114	281	—	—	—
2nd—4th Admissions	30	21	51	—	—	—
Readmitted from probation leave ...	81	77	158	—	—	—
Back from New Year leave G.N. 239/24	29	20	49	—	—	—
	307	232	539	—	—	—
				307	232	539
Total cases under care	—	—	—	659	502	1,161
Cases Discharged :—						
Recovered during 1951	88	42	130	—	—	—
Relieved	173	149	322	—	—	—
On leave under G.N. No. 239/24 ...	26	17	43	—	—	—
	287	208	495	—	—	—
Died during the year	9	12	21	—	—	—
	296	220	516	296	220	516
Remaining in Hospital on 31.12.51 ...	—	—	—	363	282	645

The percentage of Discharges to Admissions was 92 compared with 94 in 1950. During the year 126 patients on probation leave were found cured and finally discharged by the Central Board of Commissioners in Mental Diseases. During 1951, the number of persons who required certification was 191 (males 101 ; females 90) compared with 174 (males 100 ; females 74) in 1950.

Causes of Insanity

6. Heredity, Alcohol, Epilepsy were prominent etiological factors—Alcohol was responsible for over 40 per cent of all male admissions

Deaths

7. During the year there were 21 deaths (males 9, females 12) compared with 28 (males 15, females 13) in 1950. The death rate calculated on the daily average number of resident patients was 3·14 per cent compared with 4·74 per cent in 1950, 4·99 in 1949 and 5·18 per cent in 1948.

Infective and Allied Diseases

8. During the year, there were 33 cases of dysentery, 15 of which were amœbic, 2 bacillary and 16 ill-defined. Influenza accounted for 42 cases and there was a welcome absence of malaria during the year.

There were three cases of typhoid fever, two of whom were new admissions. Preventive inoculation of patients with T.A.B. is still carried out.

Avitaminoses and Diseases of Nutrition

9. 16 cases of Pellagra and 10 cases of other avitaminoses (aribofiavinosis Vitamine B1 and Nicotinic Acid deficiencies) were recorded during the year.

Violence and Escape

10. No cases of suicide. Two patients absconded from the hospital but were soon recaptured and brought back to hospital.

Cases of injury to patients were as follows:—

Accidental (mostly among epileptics)	...	63
Inflicted by other patients	... ...	66

Members of the staff were injured by patients on 5 occasions but the injuries were not of a serious nature.

Seclusion and Restraint

11.—*(a)* Restraint by strait jacket for destructive habits of patients: 3 male patients were so restrained.

(b) Seclusion to meet conditions of violent behaviour. 3 female patients.

The greatest duration in any single instance for restraint and seclusion was $2\frac{1}{2}$ hours.

Treatment (Physical Methods)

12. During the year 31 Schizophrenics had insuling shock treatment with an average of 20 comas per patient: 48 per cent made a good recovery ; 26 per cent had a good social remission and were able to leave the hospital.

367 indoor patients were treated by Electroplexy with an average of 10 shocks per patient.

Of the 284 patients suffering from disorders of the affective type, 61 per cent made a good recovery, 12 per cent with fair result, 9 per cent had a temporary improvement but relapsed a short time after and 18 per cent showed no improvement.

And of the 83 Schiszophrenics, 24 per cent made a good recovery and the remaining 76 per cent showed either temporary or no improvement.

6 patients suffering from acute mania had prolonged narcosis with very good result. Modified Insulin therapy was given to four patients to improve their general physical condition and to allay excitement.

65 outdoor patients mostly suffering from disorders of the affective type, attended the hospital for E.C.T. with a total of 392 attendances, 72 per cent made a good recovery and 18 per cent were much improved and thus avoided commitment to the hospital, 10 per cent however showed no improvement and required admission to the hospital.

Occupational Treatment

13. The usual high percentage of inmates employed during the year was well maintained and work of great economic value was accomplished. About 41 per cent of the inmates were in regular employment during the year. The occupational therapy class held twice weekly was attended by an average of 25 patients and where very nice work is being done. The sale of works during the year realized a net profit of about Rs. 300.

Recreation

14. Both indoor and outdoor amusements were well provided throughout the year ; the Christmas *Fête,* at which were present Lady Blood and other distinguished visitors, was held on 21st December, 1951. The *Fête* was a very successful one. Patients and hospital staff took part in various sporting events. Physical training of male patients was instituted this year and the results are so far encouraging.

During the year members of the Beau Bassin Branch of the British Red Cross paid monthly visits to the Hospital and distributed sweets, cigarettes and magazines to the patients.

I would like here to express our appreciation to the British Red Cross Society for the work which they are doing voluntarily and which helps to break down the isolation in which mental hospitals tend to remain.

Accommodation

15. The new male ward to accommodate forty patients will soon be opened and will thus relieve the overcrowding on the male side. The building of a new female admission ward and infirmary is to be started in the very near future. 300 beds are now provided with Dunlopillo mattresses.

Visits

16. His Excellency the Governor visited and inspected the Hospital on the 20th April, 1951, Lady Limerick, the Vice-President of the British Red Cross, together with her Secretary, Miss Penny and the President of the Local Branch of the British Red Cross, Mr. Baissac, visited the hospital on the 6th March, 1951. The Central Board of Commissioners of Mental Diseases held 12 monthly meetings. A Board of Survey was held during the year.

Religious Services

17. During the year Mass was said every month and an average of 40 patients attended each service. The Civil Chaplain of the Church of England also held services.

Staff Movement

18. Dr. Brunel, the Senior Resident Medical Officer, left the Colony on overseas leave in August.

Acknowledgement

19. In conclusion I would like to thank the Director of Medical Services and the Members of the Board for their assistance in the management of the hospital and my thanks are also due to the members of the hospital staff for their cooperation and help.

R. Comty,
M.B.B.S. (Lond.) M.R.C.S. (Eng.),
Medical Superintendent,
Mental Hospital.

15th March, 1952.

APPENDIX IV

Report on the work of the Division of Entomology for 1951

Introduction

As in the previous year, the main object of adult mosquito surveys of houses treated with D.D.T. was to confirm the disappearance of *A. funestus*. This anopheline was found for the last time, at Haute-Rive, on 11th August, 1950 ; at Beau-Bois, on 16th December, 1950 and at Wolmar and Gauthier on 23rd September and 6th December, 1950 respectively. This means that, for over one year, *A funestus* has ceased to be encountered in the regions sprayed for the first time, in 1949, by personnel of the Malaria Eradication Scheme. In the Bambous—Médine area and in the south-east of Grand Port which were treated by the Health Department in 1946 and 1947, respectively, *A. funestus* disappeared after the second spraying and has never been found again. As five years have elapsed since, it is evident that eradication has been achieved in those regions.

Staff

Mr. S. Gébert, the Entomologist, left the island on 11th October, 1951, on a study tour in Tanganyika, Kenya, Uganda, Madagascar and Réunion and returned on the 10th of January, 1952. During his absence Miss Frances Webb, of the Malaria Eradication Scheme, acted in his stead.

Mosquito Surveys

During the year, collection of adults, after knock-downs with pyrethrum spray, was effected, as in the previous years, in those houses which gave the biggest yields in adult mosquitoes before spraying started. All searches were made during day-time. Details are given in the tables on the following pages, and which are summarized here: —

District	*No. of dwellings searched*	*No. of rooms in the dwellings*	*No. of adult mosquitos found*		
			A. funestus	*A. gambiae*	*C. fatigars*
Pamplemousses ...	877	1992	—	52	5850
Riv. du Rempart ...	1027	2438	—	3	1652
Flacq	547	1105	—	—	687
Grand Port ...	638	1389	—	1	672
Savanne	261	717	—	—	550
Black River ...	1617	3737	—	23	3433
Port Louis	30	73	—	—	108
Moka	406	1018	—	—	1660
Plaines Wilhems ...	83	269	—	—	340
Total ...	5510	12738	—	79	14952

In addition to the above, 37 *A. gambiae* were found in cow-sheds, in Black River.

DISTRICT CENSUS OF THE ADULT MOSQUITO POPULATION MADE CHIEFLY IN THE DWELLINGS OF THE COASTAL BELT AFTER THE APPLICATION OF D.D.T.

Date 1951	*Locality*	*No. of dwellings searched*	*No. of rooms in the dwellings*	*No. of adult mosquitos found*		
				A. funestus	*A. gambiae*	*C. fatigans*
	PAMPLEMOUSSES			*Day knock-downs*		
Jan. 9th ...	Ville-Valio	4	9	—	—	49
,, ,, ...	Petit-Gamin	7	15	—	—	29
,, 10th ...	Tombeau-Bridge	22	49	—	—	184
,, 25th ...	do.	22	49	—	—	44
,, 29th ...	Petit-Gamin	17	40	—	—	54
Feb. 12th ...	Tombeau-Bridge	15	31	—	—	64
March 7th ...	do.	22	45	—	-	37
,, 14th ...	Ville-Valio	4	8	—	—	2
,, ,, ...	Petit-Gamin	18	43	—	—	14
,, 19th ...	Tombeau-Bridge	22	49	—	4	46
,, 30th ...	do.	22	47	—	33	84
April 14th ...	do.	12	23	—	7	101
,, 16th ...	Trou-aux-Biches	22	61	—	—	192
,, 19th ...	Ville-Valio	8	15	—	—	35
,, ,, ...	Petit-Gamin	14	28	—	—	68
,, 21st ...	Le Hochet	13	30	—	—	64
,, 23rd ...	Tombeau-Bridge	22	48	—	8	220
,, 25th ...	Arsenal	22	48	—	—	174
,, 26th ...	Solitude S, E.	20	62	—	—	270
,, 27th ...	Pointe-aux-Piments ...	22	46	—	—	51
May 17th ...	Ville-Valio	8	17	—	—	10
,, ,, ...	Petit-Gamin	11	24	—	—	14
,, 19th ...	Tombeau-Bridge	11	22	—	—	145
,, 23rd ...	Le Hochet	17	38	—	—	75
,, ,, ...	Riche-Terre	5	9	—	—	46
June 5th ...	Tombeau-Bridge	22	44	—	—	157
,, 12th ...	do.	19	39	—	—	108
,, 13th ...	Trou-aux-Biches	18	56	—	—	143
,, 16th ...	Tombeau-Bridge	12	23	—	—	19
,, 22nd ...	Solitude S. E.	21	58	—	—	67
July 21st ...	Baie du Tombeau... ...	11	27	—	—	16
,, 26th ...	Ville Valio	4	11	—	—	4
,, ,, ...	Petit Gamin	18	38	—	—	32
,, 30th ...	Baie du Tombeau ...	22	53	—	—	72
August 1st ...	Tombeau Bridge	22	47	—	—	56
,, 29th ...	do.	20	45	—	—	65
Sept. 6th ...	Ville Valio	8	15	—	—	19
,, ,, ...	Petit Gamin	14	25	—	—	101
,, 10t1 ...	Trou aux Biches	22	66	—	—	531
,, 11th ...	Solitude S. E.	22	55	—	—	411
,, 12th ...	Pointe aux Piments ...	22	45	—	—	420
Oct. 3rd ...	Ville Valio	8	14	—	—	25
,, ,, ...	Petit Gamin	14	32	—	—	108
,, 11th ...	Tombeau Bridge	22	46	—	—	67
,, 18th ...	do.	22	51	—	—	68
,, 26th ...	Solitude S, E.	22	52	—	—	407
,, 31st ...	Baie du Tombeau... ...	22	51	—	—	16
Nov. 7th ...	Ville Valio	4	9	—	—	2
,, ,, ...	Tombeau Bridge	7	16	—	—	5
,, ,, ...	Ville Valio	3	7	—	—	8
,, ,, ...	Petit Gamin	8	18	—	—	16
,, 12th ...	Trou aux Biches	222	59	—	—	738
,, 24th ...	Baie du Tombeau	10	23	—	—	89
Dec. 13th ...	Tombeau Bridge	22	42	—	—	153
,, 27th ...	Tombeau Bay	12	27	—	—	19
,, 29th ...	Petit Gamin	8	20	—	—	23
,, 31st ...	Tombeau Bridge	12	22	—	—	20

Date 1951	Locality	No. of dwellings searched	No. of rooms in the dwellings	No. of adult mosquitos found		
				A. funestus	A. gambiae	C. fatigans
	RIVIÈRE DU REMPART		Day knock downs			
Jan. 3rd ...	Poudre d'Or	18	48	—	—	104
,, 4th ...	Melville Couacaud ...	22	42	—	—	11
,, 5th ...	Cap Malheureux	22	70	—	—	19
,, 8th ...	Pavé	11	25	—	—	7
,, ,, ...	Pavillon	11	27	—	—	—
Feb. 2nd ...	Melville Couacaud ...	22	44	—	—	13
,, 6th ...	Cap Maleeureux	22	70	—	—	217
,, 7th ...	Pavé	11	21	—	—	39
,, ,, ...	Pavillon	11	24	—	—	16
,, 8th ...	Ile d'Ambre East ...	5	19	—	—	15
,, ,, ...	Haute Riv	3	6	—	—	15
,, ,, ...	Hermitage	10	20	—	—	27
,, 9th ...	Pointe Lascars	22	45	—	—	28
March 2nd ...	Haute Riv	7	19	—	—	16
,, 5th ...	Pointe des Lascars ...	22	50	—	—	29
,, 6th ...	Poudre d'Or	21	50	—	1	33
,, 9th ...	Melville Couacaud ...	22	45	—	—	21
,, 12th ...	Cap Malheureux	21	65	—	—	14
,, 13th ...	Pavillon	11	23	—	—	12
,, 13th ...	Pavé	11	24	—	—	2
April 18th ...	Grand Gaube	22	59	—	—	105
,, 24th ...	Pavilloh	11	21	—	—	11
,, ,, ...	Pavé	11	20	—	—	29
May 3rd ...	Haute Rive	2	4	—	—	17
,, ,, ...	Ile d'Ambre Est	5	21	—	—	34
,, ,, ...	Hermittage	10	19	—	—	19
June 4th ...	Haute Rive	7	27	—	—	24
,, ,, ...	Hermittage	10	17	—	—	16
,, 13th ...	Pavillon	11	24	—	—	12
,, ,, ...	Pavé	11	23	—	—	29
,, 18th ...	Cap Malheureux	21	69	—	—	20
,, 19th ...	Melville Couaeaud ...	22	54	—	—	20
July 10th ...	Pointe des Lascars ...	18	39	—	—	6
,, 19th ...	Ile d'Ambre Est	6	21	—	—	--
,, ,, ...	Haute Rive	3	5	—	—	3
,, ,, ...	Hermitage	10	27	—	—	18
,, 20th ...	Melvitle Couacaud ...	22	48	—	—	43
,, 23rd ...	Cap Malheureux	22	56	—	—	55
,, 24th ...	Pavé	11	22	—	2	56
,, ,, ...	Pavillon	11	22	—	—	16
August 21st ...	Haute Rive	3	6	—	—	2
,, 21st ...	Ile d'Ambre Est	6	20	—	—	16
,, ,, ...	Hermitage	10	18	—	—	5
,, 23rd ...	Pointe des Lascars ...	22	43	—	—	111
,, 24th ...	Melville Couacaud ...	22	46	—	—	14
,, 30th ...	Poudre d'Or	22	53	—	—	33
Sept. 4th ...	Pavé	11	25	—	—	11
,, ,, ...	Pavillon	11	20	—	—	4
,, 13th ...	Cap Malheureux	22	69	—	—	16
Oct. 8th ...	Hermitage	9	18	—	—	10
,, ,, ...	Ile d'Ambre	6	22	--	—	8
,, ,, ...	Haute Rive	4	8	—	—	6
,, 9th ...	Pointe des Lsscars ...	22	42	—	—	35
,, 10th ...	Poudre d'Or	22	52	—	—	7
Otc. 12th ...	Cap Malheureux	22	60	—	—	2
,, 15th ...	Melville Couacaud ...	22	49	—	—	12
,, 16th ...	Pavé	11	24	—	—	—
,, ,, ...	Pavillon	11	23	—	—	1
Nov. 8th ...	Cap Malheureux	22	70	—	—	24
,, 19th ...	Ile d'Ambre Est	7	24	—	—	20
,, ,, ...	Haute Rive...	7	24	—	—	26
,, ,, ...	Hermitage	11	20	—	—	20

Date 1951	*Locality*	*No. of dwellings searched*	*No. of rooms in the dwellings*	*No. of adult mosquitos found*		
				A. funestus	*A. gambiae*	*C. Fatigans*
	RIVIERE DU REMPART		*Day knock-downs*			
Nov. 20th ...	Pointe des Lascars ...	22	46	—	—	2
,, 23rd ...	Poudre d'Or	22	47	—	—	34
,, 26th ...	Melville Couacaud ...	22	42	—	—	4
,, 30th ...	Pavé	11	24	—	—	4
,, ,, ...	Pavillon	11	23	—	—	2
Dec. 17th ...	Haute Rive	2	4	—	—	8
,, ,, ...	Ile d'Ambre Est	6	20	—	—	26
,, ,, ...	Hermitage	10	20	—	—	34
,, 20th ...	Pointes des Lascars ...	22	48	—	—	5
,, 21st ...	Melville Couacaud ...	22	44	—	—	12
,, 28th ...	Poudre d'Or	22	49	—	—	10
	FLACQ		*Day knock downs*			
Jan. 30th ...	Palmar	19	35	—	—	24
Feb. 5th ...	Pont Blanc...	22	43	—	—	24
,, 28th ...	,, ...	22	44	—	—	32
Mch. 8th ...	Palmar	22	46	—	—	21
Apr. 3rd ...	Belle Rose	11	22	—	—	24
,, 4th ...	Clemencia	11	17	—	—	25
,, 20th ...	,, ...	22	47	—	—	82
May 21st ...	Pont Blanc	11	20	—	—	15
,, 22th ...	Palmar	22	40	—	—	29
,, 25th ...	Clemencia	22	51	—	—	38
,, 28th ...	Belle Mare	22	41	—	—	20
,, 29th ...	Trou d,Eau Douce ...	22	52	—	—	17
,, 31st ...	Mare La Chaux	22	44	—	—	16
July 9th ...	Pont Blanc...	18	33	—	—	42
,, 11th ...	Palmar	21	41	—	—	18
,, 16th ...	Belle Mare	22	41	—	—	14
,, 17th ...	Mare La Chaux	22	47	—	—	65
,, 18th ...	Trou d'Eau Douce ...	22	56	—	—	15
Aug. 16th ...	Pont Blanc...	22	45	—	—	15
,, 17th ...	Belle Mare	22	42	—	—	15
,, 20th ...	Palmar	22	43	—	—	18
,, 22nd ...	Trou d,Eau Douce ...	22	51	—	—	16
Oct. 2nd ...	Pont Blanc	22	45	—	—	10
,, 4th ...	Palmar	22	44	—	—	6
Nov. 14th ...	Palmar	22	41	—	—	10
Dec. 16th ...	Mare La Chaux	22	44	—	—	23
,, 18th ...	Pont Blanc	16	30	—	—	10
	GRAND PORT		*Day knock-downs*			
Jan. 23rd ...	Carreau Esnouf	22	43	—	—	16
,, 24th ...	Bon Espoir	11	23	—	—	6
,, ,, ...	Rivière des Créoles ...	11	25	—	—	16
,, 25th ...	Anse Jonchée	22	50	—	—	19

Date 1951	*Locality*	*No. of dwellings searched*	*No. of rooms in the dwellings*	*No. of adult mosquitos foun*		
				A. funestus	*A. gambiae*	*C. fatigans*
	GRAND PORT		*Day knock downs*			
Feb. 22nd ...	Carreau Esnouf	20	40	—	—	36
,, 23rd ...	Bon Fspoir	11	24	—	—	39
,, ,, ...	Rivière des Créoles ...	11	24	—	—	4
,, 26th ...	Anse Jonchée	22	51	—	—	19
May 14th ...	La Barraque	14	70	—	—	29
,, 15th ...	Carreau Esnouf	22	40	—	1	34
,, 16th ...	Rivière des Créoles ..	11	27	—	—	24
,, ,, ...	Bon Espoir	11	22	—	—	6
June 25th ...	Bouchon	22	52	—	—	21
,, 26th ...	Carreau Cassia	11	22	—	—	4
July 3rd ...	,, ,, ...	22	53	—	—	12
,, 4th ...	Carreau Esnouf	21	40	—	—	15
,, 5th ...	Bon Espoir	11	23	—	—	14
,, ,, ...	Rivière des Créoles ...	11	26	—	—	15
,, 6th ...	Anse Jonchée	22	49	—	—	38
Aug. 10th ...	Carreau Esnouf	22	39	—	—	15
,, 13th ...	Bon Espoir	11	23	—	—	4
,, ,, ...	Rivière des Créoles ...	11	25	—	—	—
,, 14th ...	Anse Jonchée	22	50	—	—	16
Sept. 21st ...	Bouchon	22	46	—	—	98
,, 24th ...	Carreau Cassia	22	45	—	—	27
,, 27th ...	Carreau Esnouf	22	42	—	—	31
,, 28th ...	Bon Espoir	11	20	—	—	3
,, ,, ...	Rivière des Créoles ...	11	24	—	—	7
Oct. 1st ...	Anse Jonchée	22	49	—	—	33
,, 29th ...	Carreau Esnouf	22	39	—	—	7
Nov. 5th ...	Rivière des Créoles ...	11	22	—	—	12
,, ,, ...	Bon Espoir	11	22	—	—	—
,, 6th ...	Anse Jonchée	22	47	—	—	11
,, 22nd ...	Plaine Magnien	22	52	—	—	2
Dec. 11th ...	Carreau Esnouf	22	44	—	—	14
,, 12th ...	Rivière des Créoles ...	22	46	—	—	11
,, 14th ...	Anse Jonchée	22	47	—	—	14
	SAVANNE		*Day knock-downs*			
April 2nd ...	Bel Ombre	16	78	—	—	38
,, 11th ...	Petit Cap	22	51	—	—	32
,, 12th ...	Saint Martin	22	52	—	—	38
,, 13th ...	Beau Champ	15	52	—	—	20
,, 17th ...	Rivière des Galets ...	4	9	—	—	16
,, ,, ...	Plaine des Roches ...	9	22	—	—	44
,, ,, ...	Riambel	5	10	—	—	9
,, ,, ...	Surinam	4	8	—	—	25
May 4th ...	Saint Martin	20	50	—	—	62
,, 7th ...	Rivière des Anguilles ...	16	60	—	—	36
,, 8th ...	Rivière des Anguilles ...	17	43	—	—	12
,, ,, ...	Maisonette Branch Road	5	10	—	—	5
,, 9th ...	Bénarès	18	44	—	—	17
,, 10th ...	Savanah S. E.	11	44	—	—	30
,, 11th ...	La Sourdine	22	50	—	—	31
Aug. 31st ...	Petit Cap	11	24	—	—	11
Sept. 3rd ...	Choisy Est	22	54	—	—	50
,, 14th ...	Surinam	11	30	—	—	54
,, ,, ...	Riambel	11	26	—	—	20

Date 1951	Locality	No. of dwellings searched	No. of rooms in the dwellings	No. of adult mosquitos found		
				A. funestus	A. gambiae	C. fatigans
	BLACK RIVER			Day knock-downs		
Jan. 6th	... Wolmar	10	29	—	—	7
,, 11th	... Gauthier	5	10	—	—	20
,, ,,	... Baie du Tamarin	17	38	—	1	63
,, 12th	... Grande Rivière Noire ...	22	50	—	—	26
,, 13th	... Wolmar	8	22	—		
,, 15th	... Gros-Cailloux	11	29	—	—	24
,, ,,	... Canot	11	25	—	—	15
,, 16th	... Pte. Rivière Noire ...	19	43	—	—	89
,, 18th	... Clarence	14	34	—	—	22
,, ,,	... Camp la Boue	7	18	—	—	7
,, 19th	... Case Noyale	22	47	—	—	182
,, 20th	... Wolmar	9	25	—	—	18
,, 22nd	... Camp Creoles Albion ...	22	46	—	—	84
Feb. 3rd	... Wolmar	9	28	—	—	24
,, 13th	... Camp Creoles Albion ...	19	30	—	—	33
,, 14th	... Canot	10	20	—	—	—
,, 15th	... Gauthier	14	29	—	3	61
,, ,,	... Baie du Tamarin	5	13	—	—	—
,, 16th	... Grande Rivière Noire ...	22	51	—	—	66
,, 17th	... Wolmar	10	29	—	—	31
,, 19th	... Petite Rivière Noire ...	22	49	—	—	58
,, 20th	... Camp la Boue	11	23	—	2	75
,, ,,	... Clarence	11	25	—	—	21
,, 21st	... Case Noyale	22	47	—	—	342
,, 24th	... Wolmar	10	29	—	—	12
Mch. 10th	... Wolmar	10	30	—	—	14
,, 15th	... Camp Creoles Albion ...	23	46	—	—	12
,, 16th	... Gros Cailloux	11	31	—	—	30
,, ,,	... Canot	11	23	—	—	—
,, 20th	... Clarence	6	10	—	—	6
,, ,,	... Camp la Boue	5	13	—	—	13
,, 22nd	... Grande Rivière Noire ...	22	55	—	—	30
,, 29th	... Gauthier	15	32	—	4	51
,, ,,	... Baie du Tamarin	7	16	—	—	8
Apr. 28th	... Wolmar	11	32	—	—	13
May 2nd	... Camp Creoles Albion ...	22	43	—	—	29
,, 18th	... Camp la Boue	10	21	—	5	41
,, ,,	... Clarence	11	27	—	—	14
,, 26th	... Wolmar	8	26	—	—	15
June 1st	... Gros Cailloux	8	22	—	—	6
,, ,,	... Canot	8	17	—	—	4
,, 8th	... Camp Creoles Albion ...	22	48	—	—	31
,, 9th	... Flic-en-Flac	11	28	—	—	12
,, 11th	... Grande Rivière Noire ...	16	37	—	—	—
,, 12th	... Petite Rivière Noire ...	17	36	—	1	46
,, 14th	... Gauthier	16	36		—	5
,, ,,	... Baie du Tamarin ...	6	14	—	—	—
,, 15th	... Case Noyale	22	51	—	—	23
,, 20th	... Chebel Estate	4	14	—	—	16
,, 21st	... Camp la Boue	11	24	—	—	—
,, ,,	... Clarence	11	28	—	—	—
,, 23rd	... Wolmar	9	26	—	—	8
,, 26th	... Gros Cailloux	11	30	—	—	5
,, 27th	... Canot	11	25	—	—	17
,, 28th	... Staub	20	47	—	—	7
,, 29th	... Les Salines	22	46	—	—	4
July 7th	... Wolmar	8	13	—	—	15
,, 14th	... Flic-en-Flac	10	34	—	—	10
,, 25th	... Camp Creoles Albion ...	22	45	—	—	34
,, 27th	... Gros Cailloux	11	22	—	—	19
,, ,,	... Canot	8	8	—	—	15
,, ,,	... Le Rocher	3	18	—	—	7
,, 31st	... Albion	18	57	—	—	17

Date 1951	Locality	No. of dwellings searched	No. of rooms in the dwellings	No. of adult mosquitos found		
				A. funestus	*A. gambiae*	*C. fatigans*
	BLACK RIVER		*Day knock downs*			
Aug. 2nd	... Gauthier	22	48	—	—	15
,, 3rd	... Petite Rivière Noire ...	22	56	—	—	88
,, 4th	... Wolmar	10	28	—	—	13
,, 6th	... Grande Rivière Noire ...	22	52	—	—	89
,, 7th	... Case Noyale	22	49	—	—	104
,, 8th	... Clarence	11	31	—	—	1
,, 8th	... Camp la Boue	11	20	—	—	4
,, 9th	... Les Salines	22	51	—	—	28
,, 18th	... Flic-en-Flac	11	26	—	—	—
,, 28th	... Camp des Créoles ...	22	48	—	—	20
Sept. 1st	... Wolmar	8	24	—	—	2
,, 5th	... Gros Cailloux	11	28	—	—	3
,, 5th	... Canot	11	23	—		5
,, 7th	... Clarence	11	22	—	—	1
,, 7th	... Camp la Boue	11	23	—	—	6
,, 18th	... Gauthier	22	46	—	—	1
,, 19th	... Case Noyale	22	48	—	—	26
,, 20th	... Petite Rivière Noire ...	22	47	—	—	86
,, 25th	... Grande Rivière Noire ...	21	51	—	1	34
,, 26th	... Camp Créoles Albion ...	22	45	—	1	32
,, 29th	... Wolmar	9	25	—	—	4
Oct. 5th	... Gros Cailloux	11	26	—	—	1
,, 5th	... Canot	11	23	—	—	2
,, 13th	... Flic-en-Flac	11	29	—	—	2
,, 17th	... Camp Créoles Albion ...	22	43	—	—	21
,, 19th	... Gauthier	22	51	—	2	14
,, 22nd	... Grande Rivière Noire ...	22	49	—	—	83
,, 23rd	... Petite Rivière Noire ...	22	49	—	—	52
,, 24th	... Case Noyale	22	47	—	—	46
,, 25th	... Clarance	11	24	—	—	—
,, 25th	... Camp la Boue	11	21	—	—	5
,, 27th	... Wolmar	8	25	—	—	1
Nov. 9th	... Camp Créoles Albion ...	16	32	—	4	41
,, 9th	... Camp Créoles Albion ...	6 cow sheds	—	—	—	50
,, 10th	... Flic-en-Flac	10	28	—	—	7
,, 13th	... Canot	11	22	—	—	21
,, 13th	... Gros Cailloux	11	31	—	—	12
,, 15th	... Camp la Boue	11	23	—	—	—
,, 15th	... Clarence	11	29	—	—	3
,, 17th	... Wolmar	10	27	—	1	13
,, 27th	... Gauthier	17	34	—	—	9
,, 27th	... Baie du Tamarin	5	12	—	—	3
,, 28th	... Camp Créoles Albion ...	13	29	—	—	31
,, 28th	... ,, ,, ...	9 cow sheds	—	—	10	25
Dec. 3rd	... ,, ,, ...	13	25	—	—	53
,, 3rd	... ,, ,, ...	9 cow sheds		—	23	51
,, 4th	... Grande Rivière Noire ...	22	35	—	—	100
,, 5th	... Petite Rivière Noire ...	22	49	—	—	97
,, 6th	... Petite Rivière	22	39	—	2	131
,, 7th	... Clarence	11	24	—	—	40
,, 7th	... Camp la Boue	11	23	—	—	8
,, 8th	... Wolmar	10	26	—	—	2
,, 10th	... Case Noyale	22	55	—	—	32
,, 19th	... Canot	11	24	—	—	12
,, 19th	... Gros Cailloux	11	28	—	—	4
,, 22nd	... Flic-en-Flac	11	35	—	—	2

Date 1951	*Locality*	*No. of dwellings searched*	*No. of rooms in the dwellings*	*No. of adult mosquitos found*		
				A. funestus	*A. gambiae*	*C. fatigans*
	PORT LOUIS			*Day knock-downs*		
June 6th ...	G.R.N.W.	8	13	—	—	23
Sept. 17th ...	Bell Village	11	35	—	—	36
Dec. 1st ...	G.R.N.W.	11	25	—	—	46
	MOKA			*Day knock-downs*		
Jan. 17th ...	L'Avenir	11	39	—	—	123
,, 27th ...	Beau Bois	10	35	—	—	15
,, 31st ...	Pailles	8	18	—	—	37
Feb. 1st ...	Beau Bois	16	57	—	—	14
,, 10th ...	Pailles	11	27	—	—	66
March 3rd ...	,, ...	12	30	—	—	32
,, 17th ...	,, ...	13	30	—	—	17
,, 21st ...	,, ...	22	55	—	—	129
,, 24th ...	Beau Bois	10	32	—	—	19
,, 26th ...	Montagne Ory	11	25	—	—	32
,, 27th ...	,, ,, ...	11	24	—	—	33
,, 28th ...	Malinga	22	37	—	—	83
April 5th ...	Montagne Ory	11	27	—	—	41
,, 6th ...	Bocage	22	63	—	—	69
,, 7th ...	Bois Chéri	14	44	—	—	45
,, 9th ...	Petit Verger	21	50	—	—	195
,, 9th ...	Chantenay	1	1	—	—	2
,, 10th ...	Roselyn Cottage	22	45	—	—	300
,, 30th ...	Beau Bois	6	23	—	—	9
May 5th ...	Pailles	12	31	—	—	48
,, 12th ...	,, ...	12	30	—	—	38
June 2nd ...	,, ...	12	24	—	—	13
,, 6th ...	,, ...	14	26	—	—	52
July 30th ...	,, ...	6	13	—	—	25
Aug. 11th ...	,, ...	11	29	—	—	32
Sept. 8th ...	,, ...	11	29	—	—	37
,, 17th ...	,, ...	11	24	—	—	19
Oct. 6th ...	,, ...	11	27	—	—	26
,, 20th ...	,, ...	8	18	—	—	27
Nov. 21st ...	,, ...	22	52	—	—	42
Dec. 15th ...	,, ...	11	26	—	—	22
,, 24th ...	,, ...	11	27	—	—	18
	PLAINES WILHEMS			*Day knock-downs*		
Feb. 27th ...	Beau Bassin Allotments ...	8	28	—	—	35
March 31st ...	,, ,, ,, ...	8	28	—	—	28
May 30th ...	,, ,, ,, ...	9	30	—	—	5
June 30th ...	Réunion Estate	8	25	—	—	49
July 2nd ...	,, Camp	11	30	—	—	123
,, 2nd ...	,, Estate	5	15	—	—	10
,, 2nd ...	,, Village	6	29	—	—	21
Aug. 27th ...	La Confiance	5	16	—	—	2
Oct. 30th ...	Beau Bassin Allotments ...	6	21	—	—	23
Nov. 29th ...	Maingard Street	9	23	—	—	24
,, 29th ...	La Confiance	8	24	—	—	20

Anopheline Incidence

A. funestus was not met with, either in the adult or in the larval stage.

A. gambiae adults were found in very small numbers, in human dwellings. The 12,738 rooms searched produced only 79. On the other hand, 12 out of 24 cow-sheds produced 37 adults.

One must not think that the few adults found indicate a scarcity of *A. gambiae*. The figures given above are the result of day-catches. Night-time catches would have yielded a much larger collection, as was proved last year.

Of the *A. gambiae* which enter the human dwellings, after sunset, some go out without feeding : others leave soon after having fed ; and the rare ones remaining in the rooms, in day-time, are those which have found resting-places unreached by the spray, chiefly in the roof-thatch and on garments hung on the walls. These facts were evidenced by hand-catching when all gambiae brought to the laboratory and bred, continued to live for many days, whilst all others placed in contact with treated surfaces died.

Here is a summary of the tables which follow, showing the results of larval searches: —

District	*No. of times anopheline larvae were found*		
	A. funestus	*A. gambiae*	*A. maculipalpis*
Pamplemousses	—	48	21
Rivière du Rempart	—	34	1
Flacq	—	4	—
Grand Port	—	19	2
Savane	—	1	5
Black River	—	79	43
Port Louis	—	2	2
Moka	—	14	2
Plaines Wilhems	—	1	—
TOTAL ...	—	202	76

As can be seen *gambiae* larvae, were found 202 times in spite of the drought which prevailed towards the end of the year and of the island-wide larviciding campaign carried out by the Malaria Eradication Scheme personnel. In fact, larvae continued to be found in most of the usual breeding-grounds, though these had been treated with high-spread oil containing D.D.T.

A. maculipalpis. Only one adult was found, in a hut, during knock-downs, on 14th April, at Tombeau Bridge village.

Larvae were encountered 76 times in seepages and other very shallow slow-moving waters.

Culicines

The most common mosquito found was *Culex fatigans*. Only 15 houses out of the 5,510 searched did not contain any. In a few cases *Culex thalassius, Aedes albopictus* and *Aedes fowleri* were also collected.

Now that *Culex fatigans* has become D.D.T. resistant, it is as common as it used to be in former years and in some regions, is a real pest.

Table Showing Larval Searches in each District

Date 1951	Locality	Nature of Breeding-Ground	Species found		
			A. funestus	*A. gambiae*	*A. maculipalpis*
	Pamplemousses				
Jan. 8th	... Ville-Valio ...	... Irrig. water overflows ...	—	+	+
,, 9th	... Tombeau-Bridge	... Irrigation water overflows and rock-pools ...	—	+	+
,, 31st	... Baie-du-Tombeau	... Stagnant rain-water ...	—	+	—
Feb. 12th	... Tombeau-Bridge	... Irrig. water in rice-field ...	—	+	—
March 2nd	... Tombeau-Bridge	... Irrig. water in cane-field	—	+	—
,, 3rd	... Baie-du-Tombeau	... Garden watering-pool ...	—	+	—
,, 3rd	... Pte. Baie-du-Tombeau	Seepages	—	—	+
,, 12th	... Pointe-aux-Piments	... Rock-pool of brackish water	—	+	—
,, 14th	... Ruisseau Rose	... Seepages	—	—	+
,, 15th	... Crève-Cœur ...	... Seepages	—	—	+
,, 20th	... Solitude ...	... Water in rice-field ...	—	+	—
,, 21st	... Baie-du-Tombeau	... Garden watering-pool ...	—	+	—
,, 30th	... Tombeau Bridge	... Irrig. water stagnation ...	—	+	—
April 3rd	... Tombeau-Bridge	... Rock-pools	—	+	—
,, 3rd	... Solitude ...	... Water in rice-field ...	—	+	—
,, 4th	... Ville-Valio ...	... Water in rice-field ...	—	+	—
,, 6th	... Baie-du-Tombeau	... Fresh water in salt-pans...	—	+	—
,, 9th	... Rivière Chambly	... Water in rice-field ...	—	+	+
,, 9th	... St. Joseph ...	... Irrig. water stagnation ...	—	+	—
,, 10th	... Gde. Pte.-aux-Piments	Rain-water stagnation ...	—	+	—
,, 10th	... Balaclava	—	—	—	—
,, 11th	... Trou-aux-Biches	... Rain-water pool	—	+	—
,, 12th	... Solitude ...	... Water in rice-field ..	—	+	+
,, 13th	... Arsenal ...	... Water in rice-field ..	—	+	+
,, 19th	... Baie-du-Tombeau	... Garden watrring-tank ...	—	+	—
,, 20th	... Tombeau-Bridge	... Water in rice-field ...	—	+	+
,, 25th	... Arsenal ...	... Garden watering-pool ...	—	+	—
,, 25th	... Arsenal	... Irrig. canal overflow ...	—	—	+
,, 26th	... Solitude ...	... Water in rice-field ...	—	+	+
,, 27th	... Pte. Pte.-aux-Piments	Rock-pool of brackish water	—	+	—
May 2nd	... Troux-aux-Biches ...	—	—	—	—
,, 5th	... Baie-du-Tombeau	... Brackish water drain ...	—	+	—
,, 10th	... Solitude ...	... Stagnant water	—	+	—
,, 10th	... Arsenal ...	... Seepages	-	+	+
,, 11th	... Trou-aux-Biches	... Edge of marsh	—	+	—
,, 11th	... Pte. Pte.-aux-Piments	Rock-pool	—	+	—
,, 12th	... Baie-du-Tombeau	... Brackish water drain ...	—	+	—
,, 15th	... Rivière Chambry	... Water in rice-field ...	—	+	+
,, 15th	... St. Joseph ...	... Garden watering-pool ...	—	+	—
,, 16th	... Massilia ...	... Irrig. water overflow ...	—	—	+
,, 16th	... Ville-Valio ...	.. Irrig. water overflow ...	—	—	+
,, 17th	... Tombeau-Bridge	... —	—	—	—
,, 19th	... Baie-du-Tombeau	... Brakish water marsh ...	—	+	—
,, 26th	... Baie-du-Tombeau	... —	—	—	—
June 2nd	... Baie-du-Tombeau	... —	—	—	—
,, 4th	... Tombeau-Bridge	... —	—	—	—
,, 9th	... Baie-du-Tombeau	... Brackish water drain ...	—	+	—
,, 12th	... Baie-du-Tombeau	... —	—	—	—
,, 16th	... Baie-du-Tombeau	... —	—	—	—
,, 21st	... Ville-Vario ...	... Irrigation water	—	+	+
, 23rd	... Tombeau-Bridge	... —	—	+	+
July 12th	... Tombeau Bridge	... Seepages	—	—	+
,, 13th	... Trou-aux-Biches	... Marsh	—	+	—
,, 18th	... Solitude	—	—	—	—
,, 19th	... Trou-aux-Biches	... Marsh	—	+	—
Aug. 4th	... Baie-du-Tombeau	... Brackish water marsh ...	—	+	—
,, 9th	... Trou-aux-Biches	... Marsh	—	+	—
,, 20th	... Roche-Bois ...	... Brackish water drain ...	—	+	+
,, 29th	... Tombeau-Bridge	... Garden watering-pool ...	—	+	—
,, 29th	... Tombeau-Bridge	... Seepages	—	—	+

Date 1951	*Locality*	*Nature of Breeding-Ground*	*Species found*		
			A. funestus	*A. gambiae*	*A. maculipalpis*
	PAMPLEMOUSSES				
Sept. 8th	... Roche-Bois ...	... Brackish water drain ...	—	+	—
,, 10th	... Trou-aux-Biches ...	—	—	—	—
,, 11th	... Solitude	—	—	—	—
,, 12th	... Pte. Pte.-aux-Piments	—	—	—	—
,, 17th	... Roche-Bois ...	... Brackish water-pool ...	—	+	—
,, 22nd	... Baie-du-Tombeau	... Irrigation water	—	+	—
Oct. 3rd	... Peyrebère	—	—	—	—
,, 6th	... Roche Bois	—	—	—	—
,, 9th	... St. André	—	—	—	—
,, 11th	... Tombeau-Bridge ...	—	—	—	—
,, 12th	... Ville-Valio	—	—	—	—
,, 13th	... Baie-du-Tombeau	... Irrigation water	—	+	—
,, 17th	... Trou-aux-Biches ...	—	—	—	—
,, 26th	... Baie-du-Tombeau ...	—	—	—	—
,, 29th	... Tombeau Bridge	... Seepages	—	—	+
Nov. 12th	... Trou-aux-Biches	... Marsh	—	+	—
,, 16th	... Tombeau-Bridge ...	—	—	—	—
,, 24th	... Roche-Bois	—	—	—	—
Dec. 1st	... Baie-du-Tombeau ...	—	—	—	—
,, 12th	... Baie-du-Tombeau ...	—	—	—	—
,, 22nd	... Roche-Bois	—	—	—	—
,, 28th	... Baie-du-Tombeau ...	—	—	—	—
,, 31st	... Roche-Bois	—	—	—	—
Jan. 3rd	... Poudre d'Or ...	... Rain water stagnation ...	—	+	—
,, 4th	... Melville Couacaud	... Marsh	—	+	—
,, 5th	... Pavé, Pavillon	... Stagnant water in cattle-	—	+	—
,, 29th	... Ile d'Ambre Est.	... pen	—	+	—
,, 29th	... Haute Rive ...	... Marshy ground	—	+	—
,, 30th	... Pointe des Lascars	... Seepages	—	—	—
Feb. 1st	... Poudre d'Or ...	... Edge of stream	—	+	—
,, 2nd	... Melville Couacaud	... Stagnant rain-water ...	—	+	—
,, 6th	... Cap Malheureux	.. Stagnant rain-water ...	—	+	—
,, 7th	... Pavé, Pavillon	... Stagnant rain-water ...	—	+	—
,, 8th	... Ile d'Ambre Est.	... Marshy ground	—	+	—
,, 8th	... Haute Rive ...	... Brackish water marsh ...	—	+	—
,, 9th	... Pointe des Lascars	... —	—	—	—
March 6th	... Pointe des Lascars	... —	—	—	—
,, 7th	... Poudre d'Or ...	... Canal Overflow ...	—	+	—
,, 8th	... Melville Couacaud	... Seepages	—	+	—
,, 9th	... Cap Malheureux	... —	—	—	—
,, 16th	... Belmont ...	... Brackish water-pool ...	—	+	—
,, 18th	... Haute-Rive ...	... Spring	—	+	—
,, 18th	... Hermitage ...	... Water in rice-field ...	—	—	+
,, 23rd	... Ile d'Ambre Est	... Marshes	—	+	—
,, 24th	... Pavé, Pavillon ...	... Marsh	—	+	—
April 5th	... Cap Malheureux	... —	—	—	—
May 3rd	... Haute Rive ...	... Marshy ground	—	+	—
,, ,,	... Ile d'Ambre ...	... Marshy ground	—	+	—
,, ,,	... Hermitage ...	... Irrigation-water stagna-			
		tion	—	+	—
July 5th	... Cap Malheureux	... Marsh	—	+	—
,, 10th	... Pointe des Lascars	... Brackish water marsh ...	—	+	—
,, 28th	.. Belmont ...	... Brackish water marsh ...	—	+	—
,, 31st	... Cap Malheureux	... Marsh	—	+	—
Aug. 1st	.. Roches-Noires	... —	—	—	—
,, ,	... Haute-Rive ...	... —	—	—	—
,, 3rd	... Belmont ...	... Brackish water marsh ...	—	+	—
,, 7th	... Cap Malheureux	... Marsh	—	+	—
,, 8th	... Belmont ...	... Brackish water marsh ...	—	+	—
,, 30th	... Poudre d'Or ...	... —	—	—	—
Sept. 4th	... Pavé, Pavillion	... Garden watering-pool ...	—	+	—
,, 13th	... Cap Malheureux	... Marsh	—	+	—
,, 19th	... Grand'Baie ...	... Marsh	—	+	—
,, 24th	... Ile d'Ambre Est	,,, —	—	—	—

Date 1951		Locality	Nature of Breeding-Ground	Species found: A. funestus	A. gambiae	A. maclipalpis
		PAMPLEMOUSSES				
Oct.	2nd	... Cap Malheureux	... Marsh	—	+	—
,,	,,	... Grand'Baie ...	... Marsh	—	+	—
,,	3rd	... Grand'Baie ...	... —	—	—	—
,,	10th	... Poudre d'Or ...	... —	—	—	—
,,	15th	... Mon-Songe ...	... —	—	—	—
,,	24th	... Melville Couacaud	... —	—	—	—
Nov.	8th	... Cap Malheureux	... —	—	—	—
,,	14th	... Ambre Island ...	.. Marshy ground	—	+	—
,,	28th	... Ambre Island ...	... Marshy ground	—	+	—
Dec.	4th	... Grand'Baie ...	... —	—	—	—
		FLACQ				
Jan.	26th	... Palmar	... Stagnant water in cattlepen...	—	+	—
Feb.	5th	... Constance ...	... —	—	—	—
,,	28th	... Palmar	... —	—	—	—
Mch.	1st	... Pont-Blanc ...	... —	—	—	—
June	8th	... Poste-de-Flacq...	... Irrigation water in tobacco-field	—	+	—
,,	11th	... Providence ...	... Stagnant water in aloe field	—	+	—
,,	13th	... Choisy	... —	—	—	—
,,	15th	... Poste-de-Flacq...	... —	—	—	—
July	9th	... Pont Blanc ...	... —	—	—	—
,,	11th	... Palmar	... —	—	—	—
,,	23rd	... Trou d'Eau Douce	... —	—	—	—
Aug.	16th	... Pont Blanc ...	... —	—	—	—
,,	17th	... Belle Mare ...	... —	—	—	—
Sept.	25th	... Belle Mare ...	... Canal overflow	—	+	—
,,	26th	... Palmar	... —	—	—	—
Oct.	1st	... Poste-de-Flacq...	... —	—	—	—
Dec.	21st	... Palmar	... —	—	—	—
		GRAND PORT				
Jan.	19th	... Carreau Esnouf	... Water-cress beds... ...	—	+	—
,,	22nd	... Bon Espoir ...	... Edges of stream	—	+	—
Feb.	22nd	... Bon Espoir ...	... Spring-water — ...	—	+	—
,,	23rd	... Anse Jonchée ...	... —	—	—	—
,,	26th	... Carreau Esnouf	... Water-cress beds	—	+	—
May	9th	... Carreau Esnouf	... do	—	+	—
,,	21st	... Virginia ...	... do	—	+	—
,,	,,	... Sauveterre ...	... do	—	+	—
May	29th	... Terre Rouge ...	... Edges of canal	—	+	—
,,	29th	... Riv. des Créoles	... ,, ,, ...	—	+	—
,,	31st	... Le Vallon ...	... In old reservoir	—	+	—
June	25th	... Le Bouchon ...	... —	—	—	—
,,	26th	... Carreau Cassia	... Water cress bed	—	+	—
July	3rd	... Carreau Cassia	... ,, ,, ...	—	+	—
,,	4th	... Carreau-Esnouf	... ,, ,, ...	—	+	—
,,	5th	... Riv. des Créoles	... Rock pool, river bed ...	—	+	—
,,	6th	... Anse Jonchée ...	... —	—	—	—
,,	24th	... Carreau Cassis	... —	—	—	—
,,	25th	... Pointe d'Esny ...	... Marsh	—	+	—
Aug.	1st	... Bambous Virieux	... —	—	—	—
,,	13th	... Riv. des Créoles	... —	—	—	—
,,	14th	... Anse Jonchée ...	... Stag water on road ...	—	+	—
,,	22nd	... Grand Sable ...	... Seepages	—	+	+
,,	23rd	... Petit Sable ...	... ,, ...	—	+	+
Oct.	22nd	... Carreau Esnouf	... —	—	—	—
Nov.	22nd	... Plaine Magnien	... —	—	—	—
Dec.	3rd	... Mahebourg ...	... —	—	—	—
,,	6th	... Anse Jonchée .	... —	—	—	—
,,	13th	... Bambous Virieux	... Garden watering pool ...	—	+	—
,,	18th	... Carreau Cassia	... —	—	—	—
,,	19th	... Petit Sable ...	... —	—	—	—
,,	20th	... Grand Sable ...	... —	—	—	—

Date 1951	Locality	Nature of Breeding-Ground	Species found		
			A. funestus	A. gambiae	A. naculipalpis
	SAVANNE				
Mch. 27th	... Bel Air	—	—	—	—
April 16th	... Plaine Champagne ...	—	—	—	—
April 17th	... Plaine Raoul	—	—	—	—
May 7th	... Riv. des Anguilles ...	—	—	—	—
May 23rd	... Bel Ombre	Spring water	—	—	+
,, 23rd	... Toulet	Seepages	—	+	+
Aug. 31st	... Petit Cap	,, ...	—	—	+
,, 31st	... Macondé	,, ...	—	—	+
Sept. 3rd	... Choisy Est.	Springs	—	—	+
,, 14th	... Riambel	—	—	—	—
Nov. 20th	... Bassin Blanc	—	—	—	—
	BLACK RIVER				
Jan. 10th	... Camp Créoles Albion ...	Eges of stream	—	+	+
,, 11th	... Gauthier	Water cress bed	—	+	+
,, 12th	... Gde. Rivière Noire ...	Garden watering pool ...	—	+	+
,, 12th	... Gde. Rivière Noire ...	Seepages	—	—	+
,, 13th	... Wolmar	Stagnant water in cattle pen	—	+	+
,, 15th	... Canot	Irrigation water	—	+	+
,, 15th	... Gros Cailloux	,, ,, ...	—	+	+
,, 16th	... Clarence	,, ,, ...	—	+	—
,, 16th	... Camp la Boue	,, ,, ...	—	+	—
,, 17th	... Pte. Rivière Noire ...	Edges of stream	—	+	+
,, 18th	... Case Noyale	Stagment water in cattle pen	—	+	—
,, 24th	... Belle Vue	Irrigation	—	+	—
Feb. 3rd	... Wolmar	Irrigation water	—	+	+
,, 13th	... Camp Créoles Albion...	Edges of stream	—	+	+
,, 14th	... Canot	Water-cress bed	—	+	—
,, 14th	... Gros Cailloux	Garden watering-pool ...	—	+	—
,, 15th	... Gauthier	Seepages	—	+	+
,, 16th	... Grande Rivière Noire..	Stagnant water in cattle-pen, garden watering-tanks	—	+	—
,, 17th	... Wolmar	Stagnant waters and seepages...	—	+	—
,, 19th	... Petite Rivière Noire ...	Seepages	—	+	+
,, 20th	... Case Noyale	Spring water	—	+	—
,, 21st	... Clarence	Water in rice-field ...	—	+	+
Mch. 13th	... Pointe-aux-Sables ...	Brackish water pool ...	—	+	—
,, 17th	... Canot	Garden watering pool ...	—	+	+
,, 22nd	... Gauthier	Edges of canal	—	+	—
,, 28th	... Belle Isle	Garden watering pool ...	—	+	—
,, 29th	... Mon Repos	Garden watering pool ...	—	+	—
Apr. 2nd	... La Gaulette	Garden watering pool ...	—	+	—
,, 2nd	... Coteau Raffin	Rain water stagnation ...	—	+	—
,, 21st	... Petite Rivière	Garden watering pool ...	—	+	—
,, 24th	... Wolmar	Irrig. water overflows ...	—	+	—
,, 30th	... Gros Cailloux	Irrig. water stagnation ...	—	+	—
May 4th	... Gauthier	Irrig. water stagnation ...	—	+	+
,, 8th	... Camp Créoles Albion...	Irrig. water stagnation ...	—	+	—
,, 14th	... Pointe aux Sables ...	Brakish water marsh ...	—	+	—
,, 18th	... Gauthier	Irrigation water	—	+	+
,, 25th	... Clarence	Irrigation water	—	+	+
June 1st	... Gauthier	Edges of canal	—	+	+
,, 5th	... Clarence	Irrigation water	—	+	+
,, 6th	... Gros Cailloux	Irrigation water	—	+	+
,, 14th	... Grande Rivière Noire..	Canal overflow in canefield	—	+	+
,, 19th	... Clarence	Seepages	—	+	+
,, 22nd	... Gauthier	Seepages	—	+	+
,, 27th	... Gros Cailloux	Irrigation water	—	+	+
,, 28th	... Baie du Cap	Stagnant water	—	+	—
,, 29th	... Les Salines	—	—	—	—
,, 29th	... Clarence	—	—	—	—

Date 1951		Locality	Nature of Breeding-Ground	Species found		
				A. funestus	*A. gambiae*	*A. maculipalpis*
		BLACK RIVER				
July	7th	... Wolmar ...	... Stag. water in cattle-pen..	—	+	—
,,	14th	... Flic-en-Flac ...	... Irrigation waters... ...	—	+	+
,,	16th	... Gauthier ...	... Irrigation waters... ...	—	+	+
,,	17th	... Clarence ...	... Water in rice field ...	—	+	+
,,	26th	... Belle Vue ...	... Edges of reservoir ...	—	+	—
,,	27th	... Gauthier ...	... Edges of Canal	—	+	+
,,	30th	... Pointe-aux-Sables ...	—	—	—	—
Aug.	2nd	... Albion	... Seepages, edge of marsh..	—	+	+
,,	3rd	... Baie du Tamarin	... Edge. of river, near sea..	—	+	+
,,	6th	... Grande Riviere Noire ..	Seepages	—	+	+
,,	10th	... Gauthier ...	... Irrigation canal overflow.	—	+	+
,,	18th	... Flic-en-Flac ...	... Seepages	—	+	+
,,	24th	... Gauthier ...	.. Fountain overflow ...	—	+	—
Sept.	1st	... Wolmar ...	... Stag. water in cattle-pen..	—	+	—
,,	1st	... Wolmar ...	... Irrigation overflow ...	—	—	+
,,	5th	... Gros Cailloux ...	... Irrigation waters... ...	—	+	+
,,	7th	... Canot	—	—	+	+
,,	20th	... Gauthier ...	... Seepages	—	+	+
,,	20th	... Gros Cailloux ...	... Irrigation water	—	+	—
,,	20th	... Canot	... Garden watering pool ...	—	+	—
,,	21st	...Gauthier ...	... Garden watering pool ...	—	+	+
,,	28th	... Pointe-aux-Sables ...	—	—	—	—
,,	29th	... Petite Rivière	—	—	—	—
Oct.	4th	... Belle Vue ...	... Stag. water in canefield .	—	+	+
,,	5th	... Gauthier ...	... Fountain overflow ...	—	+	—
Oct.	8th	... Belle-Vue ...	... Irrig. water stagnation ...	—	+	—
,,	16th	... Camp Créoles Albion ..	do. ...	—	+	—
,,	18th	... Gros Cailloux ...	... Irrig. water overflow ...	—	+	+
,,	25th	... La Chaumière ...	... Garden watering-pool ...	—	+	—
,,	27th	... Canot	... Irrig. water stagnation ...	—	+	—
,,	31st	... Pointes aux Sables ...	do. ...	—	—	—
Nov.	7th	... Pointe Rivière Noire ...	do. ...	—	+	—
,,	8th	... Gros Cailloux	do. ...	—	+	—
,,	9th	... Gauthier	—	—	—	—
,,	10th	... Gros Cailloux ...	... Irrigation overflows ...	—	+	+
,,	19th	... Gros Cailloux	do. ...	—	+	+
,,	23rd	... Gauthier ...	... Irrigation waters ...	—	+	+
,,	28th	... Camp Créoles Albion ..	do. ...	—	+	+
,,	30th	... Clarence	do. ...	—	—	—
Dec.	5th	Petite Rivière	—	—	—	—
,,	7th	... Gauthier ...	... Irrigation waters ...	—	+	+
,,	8th	... Flic-en-Flac	—	—	—	—
,,	15th	... Canot	... Irrigation waters ...	—	+	—
,,	17th	... Camp Créoles Albion...	—	—	+	—
,,	29th	... Pointe aux Sables ...	—	—	—	—
		MOKA				
Jan.	20th	... Pailles	... Seepages	—	—	+
,,	27th	... do, ...	... Garden watering pool ...	—	+	—
Feb.	10th	... do.	... Rain water stagnation ...	—	+	—
,,	24th	... do.	... Garden watering pool ...	—	+	—
Mch.	10th	... do.	do. ...	—	+	—
,,	19th	... Soreze	—	—	—	—
,,	24th	... Pailles	... Garden watering pool ...	—	+	—

Date 1951	*Locality*	*Nature of Breeding Ground*	*Species found*		
			A. funestus	*A. gambiae*	*A. maculipalpis*
	Moka				
April 14th	... Pailles	do. ...	—	+	—
May 28th	... do.	do, ...	—	+	—
June 20th	... do.	do. ...	—	+	+
July 21st	... do.	do. ...	—	+	—
Aug. 11th	... do.	do. ...	—	+	—
Sept. 27th	... do.	do. ...	—	+	—
Oct. 23rd	... do.	do. ...	—	+	—
Nov. 6th	... do.	... Rain water stagnation ...	—	+	—
,, 15th	... Soreze	—	—	—	—
,, 17th	... Pailles	—	—	—	—
,, 21st	... do.	... Irrig. water stagnation ...	—	+	—
Dec. 11th	... do:	—	—	—	—
,, 24th	... do.	—	—	—	—
	Port Louis				
April 7th	... Chateau d'Eau... ...	—	—	—	—
Aug. 21st	... Rivière Lataniers ...	—	—	—	—
Sept. 6th	... Chateau d'Eau...	... Seepages	—	+	+
,, 18th	... Rivière Lataniers	... Overflow	—	+	—
Oct. 19th	... Rivière Lataniers ...	—	—	—	—
,, 20th	... Chateau d'Eau... ...	—	—	—	—
Nov. 13th	... Ste. Croix	—	—	—	—
,, 26th	... Vallée des Prêtres	... Seepages	—	—	—
Dec. 10th	... Chateau d'Eau... ...	—	—	—	—
,, 27th	... Chateau d'Eau... ...	—	—	—	—
	Plaines Wilhems				
Feb. 27th	... Beau Bassin Prisons ...	—	—	—	—
Mch. 31st	... Rose Hill, Boundarx ...	—	—	—	—
May. 30th	... Reunion Estate ...	—	—	—	—
June 18th	... Reunion Estate ...	—	—	—	—
,, 30th	... Reunion Estate ...	—	—	—	—
July 2nd	... Reunion Estate ...	—	—	—	—
,, 28th	... Reunion Estate ...	—	—	—	—
Aug. 27th	... Beau Bassin Prisons ...	—	—	—	—
,, 28th	... La Confiance	—	—	—	—
Oct. 30th	... Beau Bassin Prisons ...	—	—	—	—
Nov. 27th	... La Confiance ...	... Garden watering pool ...	—	÷	—
,, 29th	... La Confiance	—	—	—	—
Dec. 14th	... Rose Hill, Boundary ...	—	—	—	—

Zoophilism of A. gambiae

As in former years many adults were found, several times, in cow-sheds, standing close to human dwellings, whilst none were found in the dwellings themselves. At Palmar, intense breeding was taking place, in and near the cattle-pen, and no adults were found in the habitations close by even at night. At Belmont, in the north of the island, intense breeding goes on in the brackish-water marshes along the coast. There, the chief source of blood, for miles, is cattle. On Ile d'Ambre, and other islands along the coast, where there are herds of cattle and stag, and a few or no human beings, *A. gambiae* breeds during the most of the year. In Black River, larvae are often found in large numbers, in stag drinking-water pools, several miles from human habitations, and the small number of *A. gambiae* entering human dwellings, even in places where breeding is prolific, indicates that the anopheline is now almost entirely dependent upon sources of blood other than human.

A Water-Miscible Larvicide for the control of A. gambiae

When it became evident, towards the end of 1950, that malaria high-spread oil, containing D.D.T., was not keeping *A. gambiae* breeding under adequate control, I decided to start experiments with a water-miscible larvicide, for, however high-spread an oil may be, it cannot get through such obstructions in the water as thick weed-growths, spirogyra, accumulation of fallen leaves and other organic detritus, and so on. To enable the oil to act well it is necessary to clear the surface of the water ; but the cost of doing this added to the expensiveness of the high-spread renders its use prohibitive. Moreover, on a clean surface, gusts of wind send the oil layer adrift, in several directions, and slight curents carry it away, before it has time to act. All these drawbacks disappear with the use of a water-miscible larvicide. An added advantage is that, after its use, stagnations of water caused by leakages of irrigation canals, which are an important source of *gambiae* breeding, becomes harmless.

I was fortunate in being able to obtain, on the local market, a cresylic water-miscible larvicide containing 16 per cent D.D.T., with which laboratory and field experiments were successfully carried out. The larvicide is lethal in dilutions as low as 1 part in 50,000,000 parts of water, and is therefore very economical. In the field, it was applied to irrigation waters by means of drip-cans suspended over the channels, and the technique arrived at after a year's experiments, supervised by a specially employed overseer, gave excellent results and proved that *A. gambiae* ceased to breed in properly treated waters. The field experiments which were carried out at Belle-Vue, in Black River, also proved that in the usual dilutions employed, no harm was done to young cane-shoots.

Our warmest thanks are due to Mr. Maurice Rey, the owner of Belle-Vue, who did not hesitate to place his estate at our disposal for a whole year ; and to allow all his irrigation waters to be treated, even though it could have been to his detriment.

A Forecast

That *A. gambiae* is able to maintain itself against adverse conditions should not alarm anyone, for, owing to the disappearance of *A. funestus*, formerly *our chief malaria vector* and to the fact that very few *gambiae* enter treated houses, the transmission-chain has nearly reached breaking-point, and malaria endemicity will continue to drop until we eventually reach the stage when we shall have anophelism without malaria.

S. Gébert,
Entomologist, Medical Services.

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